A STUDY TO EVALUATE THE EFFECTIVENESS OF SELF INSTRUCTIONAL MODULE REGARDING EXPRESSION AND STORAGE OF BREAST MILK AMONG EMPLOYED MOTHERS AT ARAVINDAN NURSING HOME AND PRIMARY HEALTH CENTRE, KOVILPALAYAM, COIMBATORE

By

Reg. No: 301421101

A DISSERTATION SUBMITTED TO THE TAMIL NADU Dr. M. G. R. MEDICAL UNIVERSITY, CHENNAI IN PARTIAL FULFILLMENT OF REQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

OCTOBER 2016

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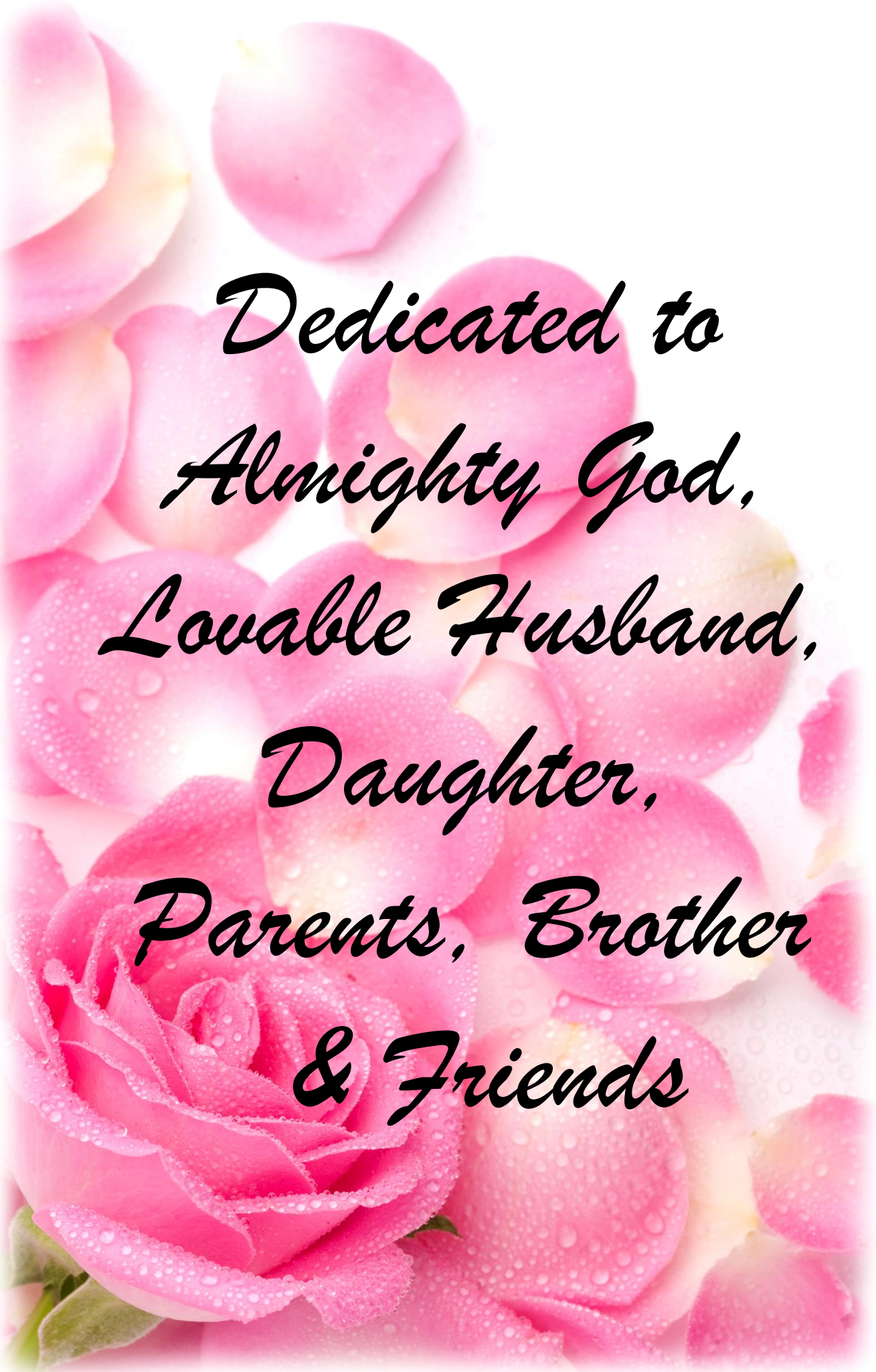
Dedicated to
Almighty God,
Lovable Husband,
Daughter,
Parents, Brother
& Friends

ACKNOWLEDGEMENT

Gratitude can never be expressed in words, but this is only a deep perception which makes the words to flow from one's inner heart

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CHAPTER - I

Introduction

"The nature has desire the provision

that infant be fed upon their Mother's Milk

- Rabindranath Tagore, (1972)

The well-being of the society is directly linked to health and survival of mothers and children. Children are foundation of our nation and parents shape their destiny by nurturing them with love, concern, attention, education and optimal nutrition. Lactation is the characteristic in almost all the mammals and it is essential to stimulate the production and flow of milk (Meharban Singh, 1995).

Breast milk is the best possible food for the baby and promotes babies physical and emotional growth to the fullest. The breast feeding should be initiated within an hour of birth instead of waiting several hours. Although milk at that time help to establish feeding and a close relationship known as "bonding" (Park, 2000).

The first milk is the best possible food for the new-born and it is yellow in colour. The shaustars call it "peeyusha" (equal to amrit, the liquor of life) and western science uses the word colostrum. It is the infant's first immunization. Exclusive breast feeding for six months is more effective intervention to promote infant nutrition and decreases their morbidity and mortality (World Health Organisation, 2006).

Neonatal sepsis is the leading cause of morbidity and mortality. More than 52% of neonatal death in India are due to infection of bottle feeding and poor feeding

rates between life and death and it is the infant “passport of life” customs supervision, tradition and ignorance sometimes deprive the child from getting this benefit. The scientific literature shows that breastfeeding currently saves 6 million infant lives each year by preventing diarrhoea and acute respiratory tract infection alone, and is alone responsible for infertility suppression (Arun Gupta, 2001).

Although the health benefits are well documented and initiation rates have increased over the past 20 years, most mothers wean before the recommended 6 months, postpartum because of perceived difficulties with breastfeeding rather than due to maternal choice. Women least likely to breast feed are those who are young, low income, belong to ethic minority, unsupported, employed full time, have negative attitude towards breastfeeding and have low confidence in their ability to breast feed. These mothers can express her milk by manual massage or using breast pump and keep it in freezer storage bags or bottle which is ready for use. Breast milk may be kept at room temperature for up to four to six hours (Cindy. L, 2004).

Oghonnac (2008) conducted a study on work and infant feeding decision at Chiang Mai, Thailand. It revealed that resumption of employment generally had negative effects on breast feeding rates and duration. Among the 313 employed mothers, 73% of the workers were back on the job before their infants were 13 weeks old. This mother stated that full time employment with insufficient breaks to express breast milk during work hours was the reason for their early weaning. Another study conducted at Canada, breastfeeding difficulties among employed that those who combined breast feeding and employment experience many difficulties. Among the 150 samples, 63 (42%) mothers had the problem of leaking milk, breast engorgement

and 19 (13%) mothers had the pressure from others to wean and found difficulty to cope up with multiple expectations of home and work (Elizabeth, 2008).

Need for the Study

Women with infants are the fastest growing segment of today's labour force. 50% of employed women return back to work, when their children are three months old. The studies indicate that women who continued to breast feed while working, missed less hours of work because of less baby related illness, compared with mothers who do not breast feed (Susan, 2009).

Health promotion and disease prevention objectives stated that the proportion of mothers who initiate breast feeding should increase at least 75% and that the proportion of mothers to combine breastfeeding for 5 to 6 months should increase at least to 50% by the year 2010 to reduce infant and child mortality, improve the health and development of infant and young children. The tenth five year plan of government of India (2003-2007) has set an ambitious target to increase exclusive breastfeeding (Government of India, 2003).

In many areas of the world neonates are not hold to breast for varying periods of time because of unfavourable maternity ward but also due to tradition that allow for discarding colostrum and delaying to breastfeeding for one to three days during which time infant receives formula or sugar water or honey (Meharbansingh, 1995).

An unfavourable working environment can make it difficult to improve breastfeeding measures. An ecological frame work which includes the individual social support and support groups are utilized supportive work environment and

facilities for breastfeeding. Health care providers can promote awareness among working women by using social and community support for breastfeeding (Johnswon, 2006).

Patient teaching is one of the main aspect of holistic care to achieve a defined outside of change in behaviour and attitude of mother. Nurses assist the mothers to increase their knowledge and skill through planned teaching programme empowers them to enhance the infant survival and reduce mortality and morbidity (World Health Organisation, 1993).

Ryan (2006) stated that maternity leave provisions are essential for working women to effectively complete the transition from pregnancy to motherhood. Premature termination or too short maternity leave may have undesirable consequences. Studies often cite early return to work as one of the reason for premature termination of breastfeeding. Shorter maternity leaves were associated with the infant and more maternal depressive symptoms.

In today's world around 75% of women are working in urban area, out of which 58% are working mothers. In Indian, the maternity benefit is given for 90 days paid leave in Government setting but in private sectors the mother have to return back to work after one and half month or two months. Also as per W.H.O rule exclusive breast feeding should be given at least for 6 months. As the mother return back to work the babies does not get proper feed's thus she can express and store the breast milk and many a times it gets spoiled and baby may became sick thus it is important to know regarding proper expression and storage of breast milk, at proper temperature. Breast feeding promotion network of India, (BPNI) says, the infant aged

(0 - 5 months) who are not breast feed have seven fold and fivefold increased risk of death from diarrhoea compared to the infants who are exclusively breast feed. To reduce the infant mortality rate and improvement in the health status and development of infants and young children, breast feeding is very important.

Journal of Human Lactation, First published on November 12, 2009, a cohort study, Conducted in Perth (Australia), the expression of breast milk allows a mother to be away intermittently from her infant while continuing to breastfeed. The study to investigate between expression of breast milk and breast feeding duration. Result: A total of 587 mother, or 55% of those eligible, participated in the study. Of these 93% were breastfeeding at discharge but after six month they discontinue as they started on their work.

According to WHO and UNICEF, exclusive breastfeeding for 6 months is the single most effective child survival intervention which reduces the under five children death about 16% in India.

India has more than 400 million children. 2.5 million Children die in India every year, accounting for one in five deaths in the world, with girls being 50 percent more likely to die. One out of 16 children die before they attain one year of age, and one out of 11 die before they attain five years of age. India accounts for 35 per cent of the developing world’s low birth weight babies and 40per cent of child malnutrition in developing countries, one of the highest levels in the world. Although India’s neonatal mortality rate declined in the 1990s from 69 per 1000 live births in 1980 to 53 per 1000 live births in 1990, it remained static, dropping only four points from 48 to 44 per 1000 live births between 1995 and 2000.

Statement of the Problem

A study to evaluate the effectiveness of self instructional module regarding expression and storage of breast milk among employed mothers at Aravindan Nursing Home and Primary Health Centre, Kovilpalayam, Coimbatore.

Objectives

- To assess the knowledge regarding expression and storage of breast milk among employed mothers.
- To assess the knowledge on practice regarding expression and storage of breast milk among employed mothers.
- To deliver self -instructional module regarding expression and storage of breast milk.
- To evaluate the effectiveness of self-instructional module regarding expression and storage of breast milk among employed mothers.
- To find out the association between knowledge and knowledge on practice regarding expression and storage of breast milk with selected demographic variables.

Hypothesis

There is a significant difference between pre-test and post-test score among employed mothers regarding breast feeding and expression and storage of breast milk.

Operational Definition

Effectiveness

It refers to the expression and storage of breast milk by means of health education to the employed mothers.

Knowledge

It is to the verbal response of respondents to knowledge items on expression and storage of breast milk by this structured interviewed schedule.

Knowledge on Practice

It refers to the actual activity of employed mothers related to expression and storage of breast milk.

Self -instructional Module

It refers to a systematically organized study material with the information related to expression and storage of breast milk.

Expressed Breast Milk

It refers to the expression of the breast milk by means of manual massage or breast pump.

Assumption

- Employed mothers have inadequate knowledge regarding about the expression and storage of breast milk.
- Education will improve the knowledge regarding the expression and storage of breast milk.
- Education will improve knowledge and knowledge on practice regarding the expression and storage of breast milk.

CHAPTER - II

Review Of Literature

One of the major functions of review of literature is to ascertain what is already known in relation to problem of interest.

Abdulla and Levine (1979) stated that the review of literature provide a basis for further investigations, justifies the need for replication, throws light on the feasibility of study to another.

This chapter deals with the review of published and unpublished research studies and non-research literature related to present study.

Literature Relevant to the Present Study is Organised Under Following Headings

- Literature related to breast feeding
- Literature related to expressed breast milk
- Literature related to container for collection of breast milk
- Literature related to storage of breast milk
- Literature related to feeding technique

Literature Related to Breast Feeding

Jennifer (2002) stated that breast feeding benefits preterm infants from a nutritional, gastrointestinal, immunological, developmental and psychological perspective. Despite the benefits of the incidents and duration of breast feeding

preterm infants continues to be less than of full term infants. The lower incidence is probably related to breast feeding challenges that preterm infants and parents face, including establishing and maintaining a milk supply and transfer from gavage feeding to breast feeding. In order to increase the incidence and duration of breast feeding preterm infants, researchers must examine breast feeding experiences longitudinally. This way researchers and clinicians can begin to understand the barriers to breast feeding at various time periods and begin implementing strategies to remove these barriers.

Yeonbai (1999) conducted the study aimed to investigate the relative importance of psychological factors under lying mother's decision to continue exclusive breast feeding for six months using the theory of planned behaviour. A strong, positive correlation between intended and actual expressed breast feeding duration, intervention programmes designed to positively influence mother's attitude and social support may be effective in improving intention thereby increasing expressed breast feeding maintenance for 6 months.

The culture, belief and practice, mother's employment and increasing modernization are linked to breast feeding. Breastfeeding rises to mother's both positive and negative experiences mediated by mother's health behaviours. Mothers working full time experience breast feeding as rewarding as well as challenging. Although they know the importance and value of breast feeding due to their working circumstances they are unable to do this task (Naeem Z, 2005).

Hellen. M (2004) stated that breast feeding is undoubtedly best for both mother and baby, many factors influences a women's decision about whether to start and when to cease feeding. In order to improve breast feeding rates, education for both mothers and midwives must be targeted towards ensuring to independently attach their baby on discharge from hospital. The findings also supports the discouragement of artificial feeding unless there is a medical indication or the mother has made an uninformed request.

Irene. S (2003) emphasized that primiparous women and women who delivered by caesarean section consistently received more information about breast feeding management than multiparous women and women who delivered vaginally. However the study suggests that all women, regardless of parity or type of delivery have information and support needs related to breast feeding.

Literature Related to Expressed Breast Milk

Colostrum is universally acknowledged as the perfect first food for infants. Oxytocin is the hormone of both labour and lactation but the literature shows a review of custom of expressing milk by all women is followed by the maternal and infant medical reason for expressing and storing colostrum. A suggested designed for expressing and storage of colostrum is included with advice about skin to skin contact in the first 24 hours to maximize breast milk output in the long term.

Klien, M. J (2002) conducted that the expression of breast milk is an important strategy to enable mothers to continue exclusive breast feeding. In some situations for health or convince expressed breast milk is required and infants fed this way still fall

within the definition of exclusive breast feeding. Breast milk expression is very useful skill to allow mothers to exclusively breast feed until 6 months and should be taught to all mothers.

Women had an average of three children each and are most breast fed for less than three months. The most common reason given for not breast feeding or breast feeding less than 3 months is not enough milk. The four factors that makes the women to shop breast feeding were personnel concern(body image, tired, return to work), need help (want husband to help, child unwell, didn't like breast feeding) uncomfortable and not confident (Jennet. P).

Stockdale, H. J (2000) conducted the study regarding the breast feeding experience of a mother who is having a child with cleft palate. The decision was made to express breast milk long term and feed the baby by chuchu teat and squeeze bottle. It provides the way to make long term expression of breast milk easier.

The technique of manually or hand expressing breast milk is fabulous alternative to using a breast pump. In fact nothing can minimize the action of breast feeding better than your own fingers (Melisakotlen, 2009).

Grahams (2008) emphasized that breast milk is often referred to as "liquid gold", store it safely in the freezer is very important. When freezing breast milk at home after expressing its generally recommended that you pour the milk into a clean bacteria free plastic containers or polyethylene bottle liner or simply keep it in pump bottle.

The expression of breast milk allows a mother to be away intermittently from her infant while continuing to breast feed. Mothers who express breast milk are more likely to breast feed up to six months, the appropriate use of expressed breast milk may be a means to help mothers to achieve six months of full breast feeding while giving more life style options.

Van Greet (2007) suggested that when direct breast feeding is not possible a mother can express (artificially remove and store) her milk. With manual massage or using a breast pump woman can express her milk and keep it in freezer storage bags, supplemental nursing system or a bottle ready for use. Breast milk may be kept at room temperature for up to six hours, refrigerated for up to 8 days or frozen for up to 4 to 6 months.

Exclusive expressing or exclusive pumping are the terms for a mother who feeds her baby exclusively on her breast milk while not physically breast feeding. This may arise because her baby is unable or unwilling to latch on to the breast. With good pumping habits, particularly in the first 12 weeks when the milk supply is being established it is possible to produce enough milk to feed the baby for as long as the mother wishes (Donzella, 2002).

Melissa. K (2009) emphasized that some women donate their expressed breast milk to other either directly or through a milk bank. Some women dislike the idea of feeding their own child with another women's milk. Feeding of expressed breast milk either from the donor or the baby's own mother is method of choice for premature

babies. The transmission of some viral diseases through breast feeding can be prevented by expressing breast milk as subjected to pasteurization.

Literature Related to Container Collection of Breast Milk

The way in which milk is collected and stored has a significant effect in milk composition. Polyethylene storage bags should not be used to store milk for infants. The glass containers fitted with an air-tight seal maintain immunoglobulin stability and minimize fat loss (Slushed. T, 2007).

Greater volume of fat concentration was absorbed in milk collected by suction. Vitamin A, zinc, iron, copper, sodium, protein, nitrogen and ascorbic acid concentrations are more. These findingsindicate that collection methods and storage procedures used for comparatively brief periods will affect the concentrations of selected nutrients of mature human milk. Specific recommendation are made for the collection and storage of milk (Garza, 2006).

Maternal milk has bactericidal capacity providing defences and protection against infection for new born. This property can be altered during the storage of milk. Consequently if storage is excess of 48 hours is required freezing is preferred to refrigeration (Silvestre. D, 2006).

Literature Related to Storage of Expressed Breast Milk

Meharban Singh (2000) stated that the milk should be collected in a clean container having as screw cap or tight lid. Milk can be safely stored for 8 hours in a cool place of the room up to 24 hours in the refrigerator. It can be stored up to 3

months in a deep freezer up to -20 degree. The stored milk should never be boiled as it will destroy the protective component of milk. It can be thawed or warmed by placing the container in a bowl of warm water. The container should be gently shaken to recombine the separated fat globules before feeding. Give expressed breast milk with the spoon and strictly avoid the use of feeding bottle.

There are varieties of containers for breast milk storage. For most healthy, term babies who get the bulk of their nutrition from direct breast feeding the storage container is not as important as it might be for a hospitalized pre term or ill baby who is getting only expressed milk. Glass is usually considered the best choice for freezing the milk because the components of milk are better preserved in glass. The second choice would be hard, clear plastic containers. Most moms find that plastic is convenient and some day care centers will not accept glass because of the risk of breakage. All containers should have a tight sealing with one piece lid (Berlin, C. M, 2005).

Storing breast milk in milk storage bags could present some problems. The milk could cling to the slides of the storage bags, reducing the amount that gets to baby. Milk bags are also more prone to contamination through leakage. Some pump companies make milk storage bags that are convenient to use and are of a thicker gauge plastic than those originally tested however, these can be expensive. If you do use bags, it’s a good idea to double bag the inner ones and storage and bag in a hard plastic storage container with a lid, in the freezer. This help to reduce the risk of small tears in the bag (Bunkie, 2010).

McLaughlin (2002) suggested that when a baby is only receiving expressed milk occasionally the type of storage container is not a major consideration. However, if a baby is receiving most of his nourishment from expressed breast milk, the of storage container used should be considered carefully. Plastic containers are the best choice for storing breast milk in the refrigerator as more of human milk's leukocytes or white cells adhere to glass. If the milk is to be frozen, glass is the preferred choice as it is less porous and offers the best protection. Most of the leukocytes in human milk are killed while freezing. For this reason milk that can be used with in eight days of expression should be refrigerator rather than frozen because the antimicrobial properties of human are better preserved with refrigerator.

Shepherd, S. C (1982) another good choice for refrigerator is freezing is the milk storage bags that are designed specifically for human milk. They are pre-sterilized and are thicker, coated with polythene and lined with nylon which prevents the fat from adhering to the sides. Hard plastic containers of any kind are also good choices for both refrigeration and freezing. Other milk bags, sold specifically as bottle liners are not as durable, making them an unacceptable alternative when freezing the milk as the seams may burn during the freezing process perhaps causing a leak during thawing.

If you are pumping breast milk to feed to your baby, it's important to know that storage guidelines. Pumped breast milk can be fed to a baby immediately after pumping after short-term refrigeration or after long-term freezing. Each way of storing milk has different guidelines for a safe storage and use (Nicki. H, 2007).

Literature Related to Feeding Technique

A study conducted on a cup feeding versus other forms of feeding for new born, infant unable to fully breast feed. Bottle feeding cannot be recommended over cup feeding assess supplement to breast feeding bottle feeding have more risk for baby (Flint. A, 2008).

Cup feeding of breast milk provide optimal nutrition for new born and infant who are unable to fully breast feed by the mother. It is ideal way for infants to receive breast milk. Cup feeding has become a popular practice in many nurseries in an attempt to improve breast feeding rate (Davis M.W, 2007).

Breast milk provides optimal nutrition for new born infants and the ideal way for infants to receive breast milk is through sucking at the breast. Unfortunately this may not always be possible as there are numerous reasons why a new born infant may not be able to breast feed and as a result require supplemental feeding. Currently, there are variety of ways in which new born infants can receive supplemental feeds. Traditionally bottles and nasogastric tubes have been used. However more recently cup feeding has become a popular practice in many nurseries in an attempt to improve breast feeding rates (Lai C.T, 2006).

Conceptual Framework

Conceptual framework for this study was derived from system theory 1968. It serves as a model for viewing people as interacting with environment. System can be opened or closed. Open system have varying degree of interaction with environment from which the system receives. Input and output in the form of matter, energy or information. The feedback may be positive, negative or neutral. This study aims at determining the effectiveness of self-instructional module regarding the expressed breast milk among employed mothers. Present study is based on 'system model'. The components of system are input, through put, output and feedback.

Input

It is the information needed by the system based on the demographic variables like age of mother, religion, residence, source of information, education, type of the family, occupation, and monthly income of the mother. In this study the input is the assessment of knowledge and knowledge on practice regarding expression and storage of breast milk.

Throughput

Throughput is the security phase where a self-instructional module was administered regarding expressed breast milk among employed mothers.

Output

Information are continuously processed through the system and revealed as output in an altered state. In this study the output is the expected gain in the knowledge and knowledge on practice of employed mothers regarding expressed breast milk which was post tested after self-instructional module.

Feed back

The feedback is the environment responsible for the system. System feedback may be mutual, positive or negative. If the feedback is negative the process is again reassessed. In this present study the feedback was not included.

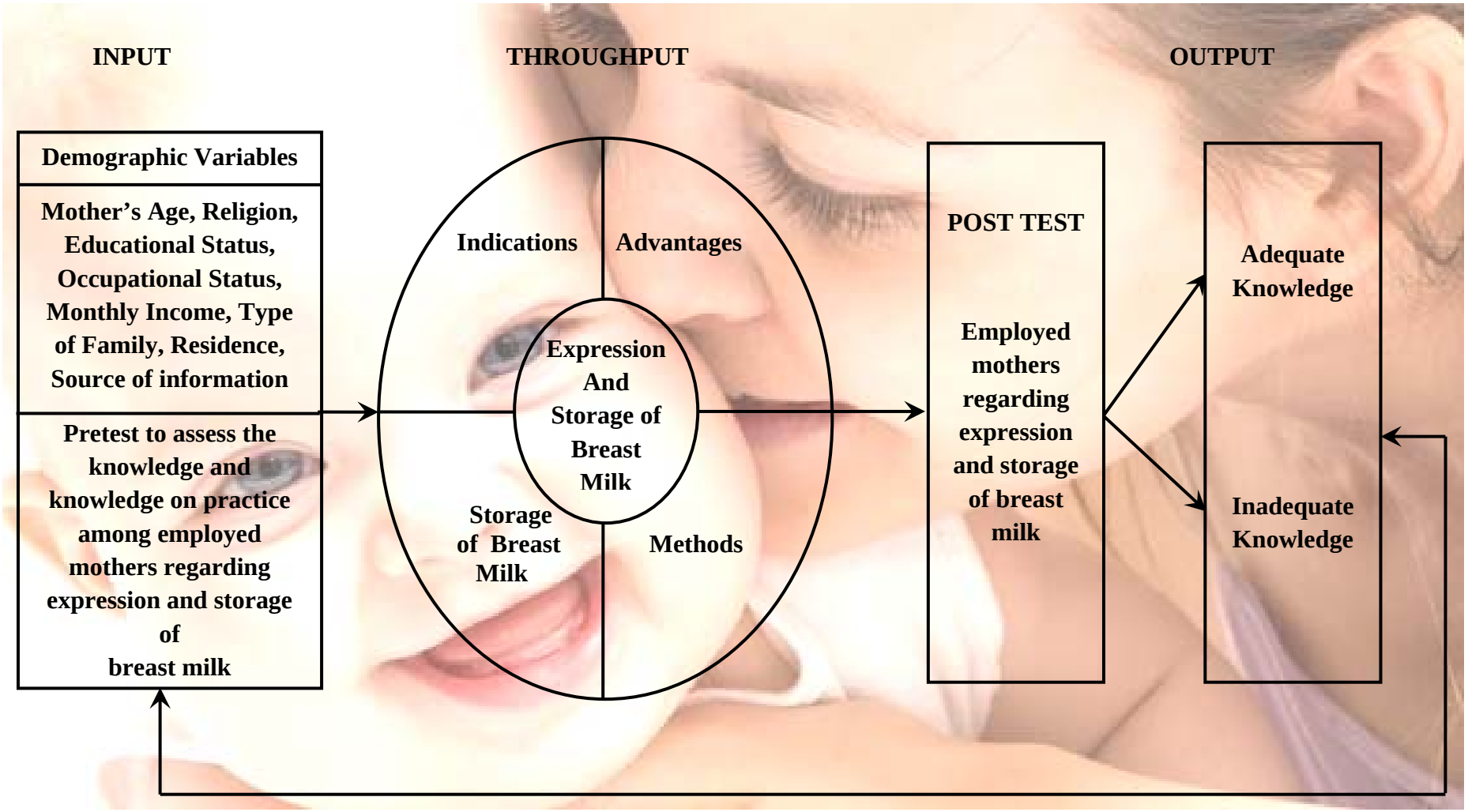

Figure. 1 Modified Conceptual Framework Based on System Model (1968)

CHAPTER - III

Methodology

This chapter consist of research approach, research design, setting of the study, population, same size, sampling technique, criteria for selection of the sample, description of the tool, content validity, reliability, pilot study, procedure of the data collection and plan for data analysis.

Research Approach

The experimental approach is a sub-type of quantitative approach was used for the present study.

Research Design

The research design helps the researcher in the selection of subjects manipulation of experimental variables procedure for data collection and the type of statistical analysis to be used to interpret the data.

The research design was pre experimental one group pre test, post test design was adopted in the study. In the present study a pre test was administered by means of questionnaire method depicted as O_1 and then a planned teaching programme was delivered as X. A post test was conducted by using the same questionnaire depicted as O_2.

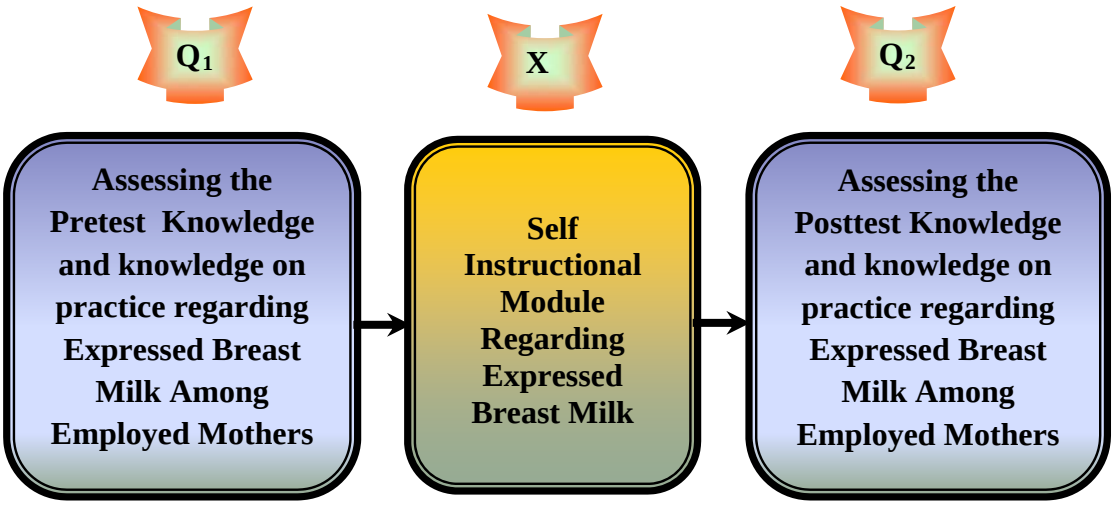

Figure. 2 The Schematic Representation of the Research Design

Setting of the study

The study was conducted among employed mothers who visited for their regular check-up at Aravindan nursing home and primary health centre Kovilpalayam.

Variables

The independent variable was self-instructional module on expressed breast milk. The dependent variable was knowledge and knowledge of practice of employed mothers regarding expression and storage breast milk and the influencing variables were demographic variables.

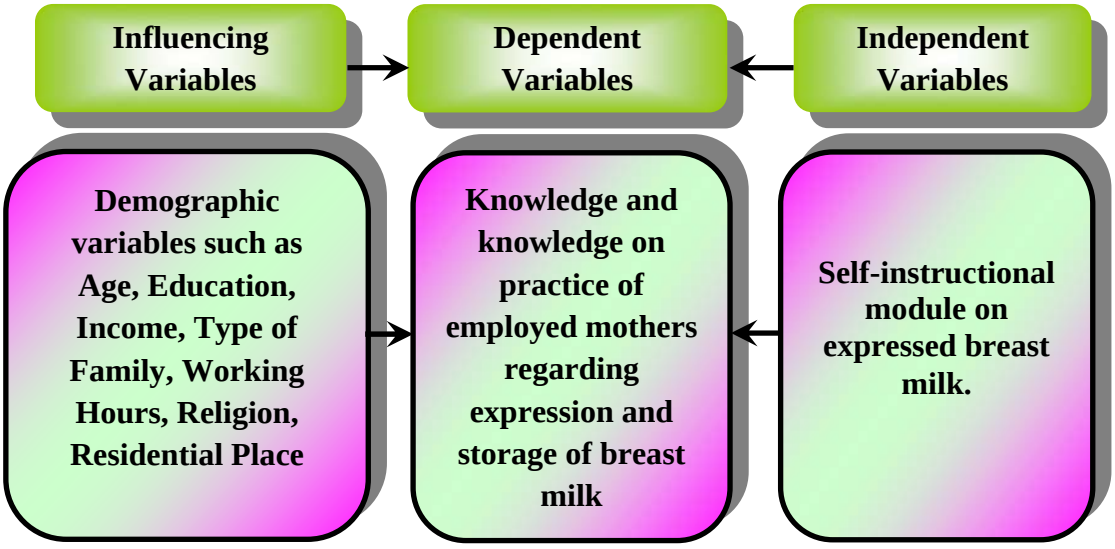

Figure. 3 The Schematic Representation of the Variables

Population

The assessable population of the study includes employed mothers who come for the monthly check up at Aravindan Nursing Home and Primary Health Centre, Kovilpalayam.

Sample Size

Sample size of the present study is 40.

Sampling Technique

Non- probability convenient sampling technique was used to select the samples. The mothers who fulfilled the sample criteria were selected till the sample size was obtained for the present study.

Criteria for the Selection of the Samples

Inclusive Criteria

- Mothers belong to the age group between 22 to 30 years
- Mothers who were able to understand both Tamil and English
- Who were willing to participate in the study

Exclusive Criteria

- Mothers who were unemployed

Description of the Tool

The researcher has developed a questionnaire to assess the knowledge regarding expressed breast milk. The instrument contains the following sessions.

Part - A Distribution of Demographic Variables

It includes the sample numbers, age of the samples, educational status, type of family, area of residence, occupational status of the mother, family income and source of information regarding expression and storage of breast milk

Part - B Questions Regarding Knowledge on Expression and Storage of Breast Milk

It consist of 40 questions related to assessment of the knowledge of employed mothers regarding expression and storage of breast milk.

Interpretation of the Questionnaire

Each question had one correct answer and was given a score of one mark, for wrong answer a score of zero was given. The total score for this section was 40.

Part - C Questions Regarding Knowledge on Practice Regarding Expression and Storage of Breast Milk

It consists of 10 questions related to assessment of the knowledge on practice of mothers regarding expression and storage of breast milk.

Interpretation of the Questionnaire

One mark was given for yes answer and zero mark for no answer. The total score allotted for this section was 15.

Testing of the Tool

Content Validity

The tool was given to the experts to the field of nursing and medicine for content validity. All comments and suggestion given by the experts were daily considered and the corrections were made.

Reliability

The reliability of the tool was determined by spearman brown split half technique.

Item	Split Half Reliability
Self instructional module	+0.8

The reliability of the tool was satisfactory

Pilot Study

The pilot study was conducted to make sure that the tool was capable of eliciting responses. It was conducted among four employed mothers in Aravindan nursing home for a period of one week. The employed mothers were selected for the pilot study. The knowledge and knowledge on practice regarding expression and storage of breast milk were assessed with the prepared questionnaire. The education module was prepared to enhance the knowledge and knowledge on practice regarding expression and storage of breast milk. Health education was given with the help of videos. The result of the pilot study showed that there was positive correlation between knowledge and knowledge on practice.

Data Collection Procedure

Prior permission was obtained from chairman of Aravindan Nursing Home, Coimbatore by submitting an application giving assurance to abide by the rules and regulations. The study was done for a period of 4 weeks. The investigator identified the mother that fulfilled criteria. The mother were explained about the purpose of the study in a compassionate manner and informed consent was taken. Necessary precautions were taken to provide privacy and confidentiality.

In pretest the knowledge and knowledge on practice of mother regarding expression and storage of breast milk was asses following pre test by using the same questionnaire. On the same day structured teaching module was educated by showing videos. Post test was conducted on the 5th day by using the same questionnaire to find out the effectiveness.

Plan for Data Analysis

- Data was planned to be analysed by using descriptive and inferential statistics.
- Descriptive statistics were used to analysis the frequency, percentage, mean, standard deviation for the following variables.
    - Demographic variables of mothers
    - Knowledge regarding expression and storage of breast milk
    - Knowledge on practice regarding expression and storage of breast milk.
- Inferential statistics were used to determine the relationship and comparison to identity the difference,
    - To identify the relationship between knowledge and knowledge on practice regarding expression and storage of breast milk.

- Paired ‘t’ test used to compare the knowledge and knowledge on practice regarding expression and storage of breast milk.

Chi-square test

Chi-square test was computed to find out the association between knowledge and knowledge on practice with selected demographic data.

CHAPTER - IV

Data Analysis and Interpretation

This chapter deals with the analysis and interpretation of data collected from the working mothers regarding expressed breast milk.

The findings based on the descriptive and inferential statistical analysis tabulated as follows

Section – I Distribution of demographic variables of working mothers

Section – II Description about knowledge regarding expression of breast milk among working mothers

Section - III Description about knowledge on practice regarding expression and storage of breast milk

Section - IV Description about the correlation between knowledge and knowledge on practice regarding expression and storage of expression and storage of breast milk

Section - V Association of selected demographic variables with post test score of knowledge and knowledge on practice regarding mothers.

SECTION - I

Table. 1 Distribution of Demographic Variables

(n = 40)

S. No.	Demographic Variables	Frequency (f)	Percentage (%)
1.	**Age in years**		
	a) 22-24 years	9	22.5%
	b) 25-26 years	23	57.5%
	c) 27-28 years	5	12.5%
	d) 29-30 years	3	7.5%
2.	**Occupational status of the mother**		
	a) Self employed	5	12.5%
	b) Labour	22	55%
	c) Office worker	8	20%
	d) Government employee	5	12.5%
3.	**Religion**		
	a) Hindu	47	94
	b) Muslim	-	-
	c) Christian	3	6
4.	**Educational level**		
	a) Basic education up to 10th std	6	15%
	b) Diploma	4	10%
	c) Graduate	20	50%
	d) Post graduate	10	25%

(Table 1 continues)

(Table 1 continued)

S. No.	Demographic Variables	Frequency (f)	Percentage (%)
5.	**Residential area**		
	a) Urban	9	30%
	b) Rural	21	70%
6.	**Total family income per month**		
	a) Below ₹. 5,000	10	25%
	b) ₹. 5001 to ₹. 8000	15	37.5%
	c) ₹. 8001 to ₹. 10,000	8	20%
	d) ₹. 10,000 and above	7	17.5%
7.	**Type of family**		
	a) Nuclear family	33	82.5%
	b) Joint family	7	17.5%
8.	**Working hours**		
	a) Less than 4 hours	-	-
	b) 4-6 hours	6	20%
	c) 6-8 hours	14	46.6%
	d) More than 8 hours	10	33.4%
9.	**Feeding utensils**		
	a) Feeding bottle	16	53.4%
	b) Spoon & cups	8	26.6%
	c) Paladai	6	20%
10.	**Source of information**		
	a) Relatives	5	16.6%
	b) Friends	3	10%
	c) Media	3	10%
	d) Health personnel	19	63.4%

- Table 1 shows the distribution of demographic variables of age group was between 22-24 years was 9 (22.5%) between 25-26 was 23 (57.5%) and above 30 was 3(7.5%).

- With regard to occupation of the mother it showed that 5(12.5%) were self employed, 22(55%) were labour, 8(20%) were office workers and 5(12.5%) were government employee.

- With regard to religion, 47(94%) mothers were Hindu and 3(6%) were Christian.

- Regarding educational qualification of the mother it was 6(15%) were basic education up to 10th , 4(10%) were diploma, 20(50%) were graduate and 10(25%) were post graduate.

- About monthly income of the mother it showed that 10(25%) were under ₹. 5000, 15(37%) were under ₹. 5001 to ₹. 8000, 8(20%) were ₹. 8001 to ₹. 10,000 and 7(17.5%) were above ₹. 10001.

- Regarding area of living 9(30%) mothers are living in urban area 21(70%) mothers are living in rural area.

- Regarding the type of the family 33(82.5%) mothers were belongs to nuclear family, 7(17.55%) were belongs to joint family.

- About working hours there are no mothers working less than 4 hours, 6(20%) mothers are working for 4-6 hours, 14(46.6%) mothers are working for 6 -8 hours, 10(33.4%) mothers are working for more than 8 hours.

- Regarding feeding utensils 16(53.3%) mothers are using feeding bottles, 8(26.6%) are using spoon and cups, 6(20%) are using paladai for feeding their babies.

- About source of information 5(16.6%) collected from the relatives, 3(10%) from friends, 3(10%) from media, 19(63.4%) from health personnel’s.

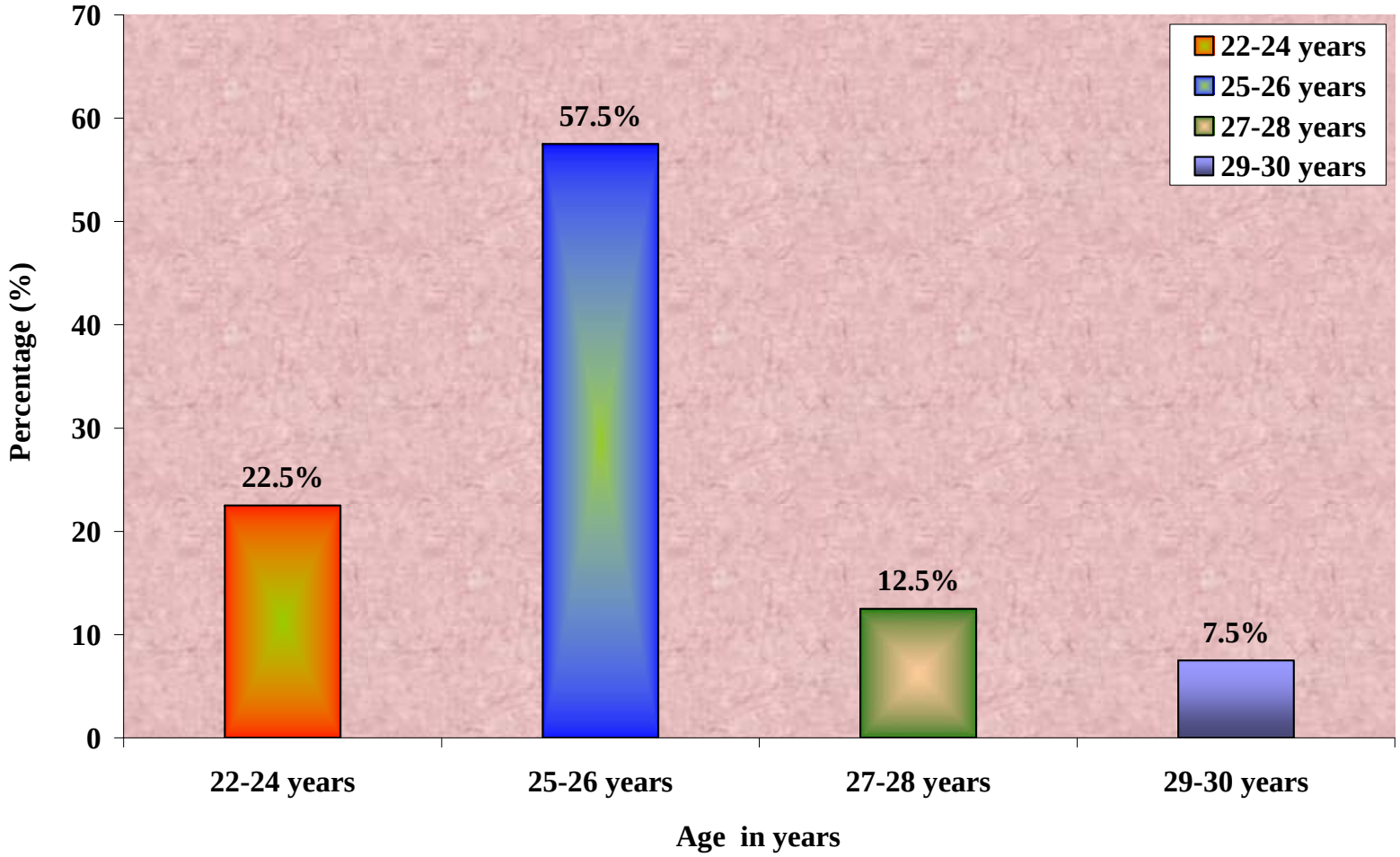

Figure. 4 Distribution of Demographic Variable According to the Age of the Mother

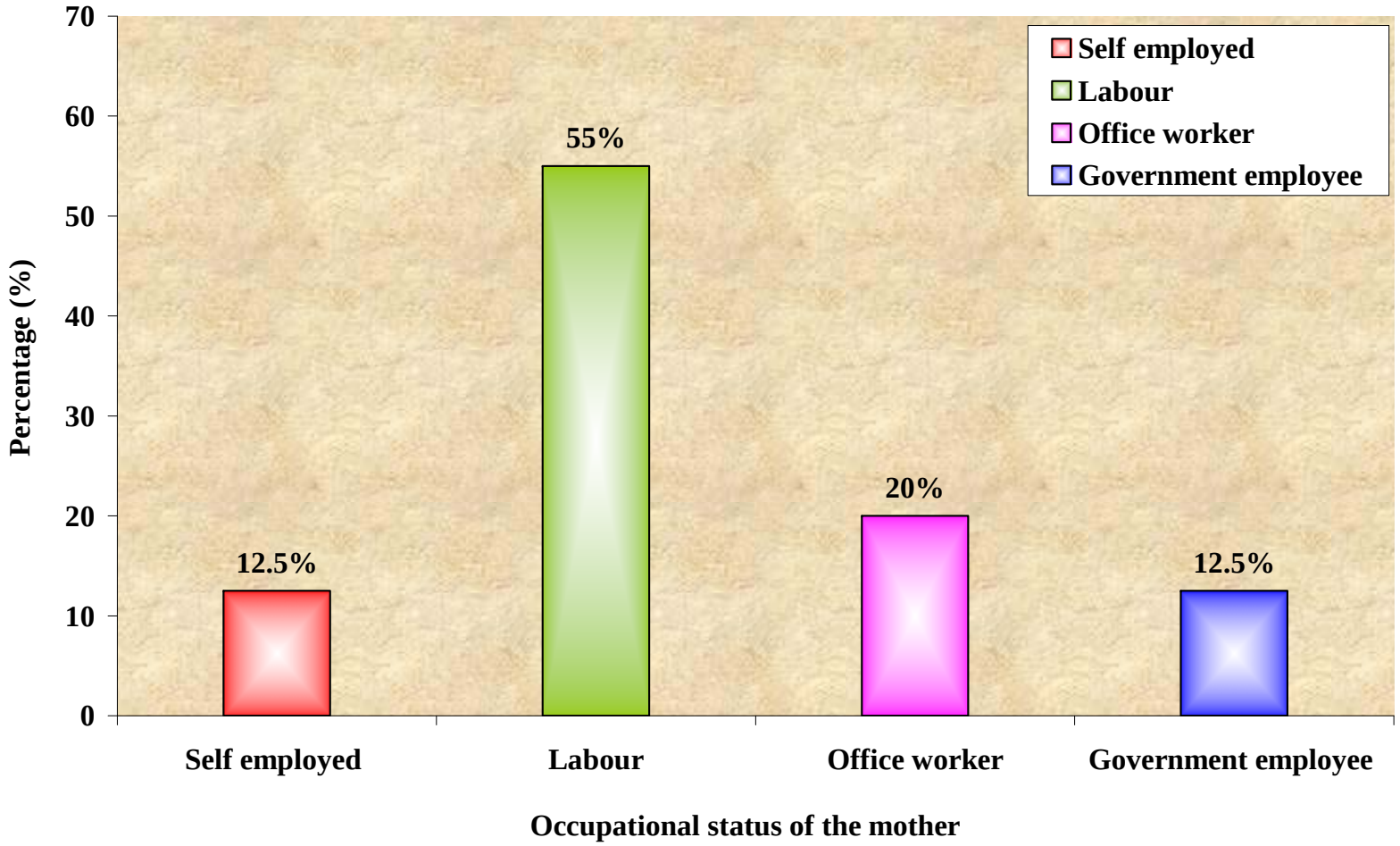

Figure. 5 Distribution of Demographic Variable According to the Occupational Status of the Mother

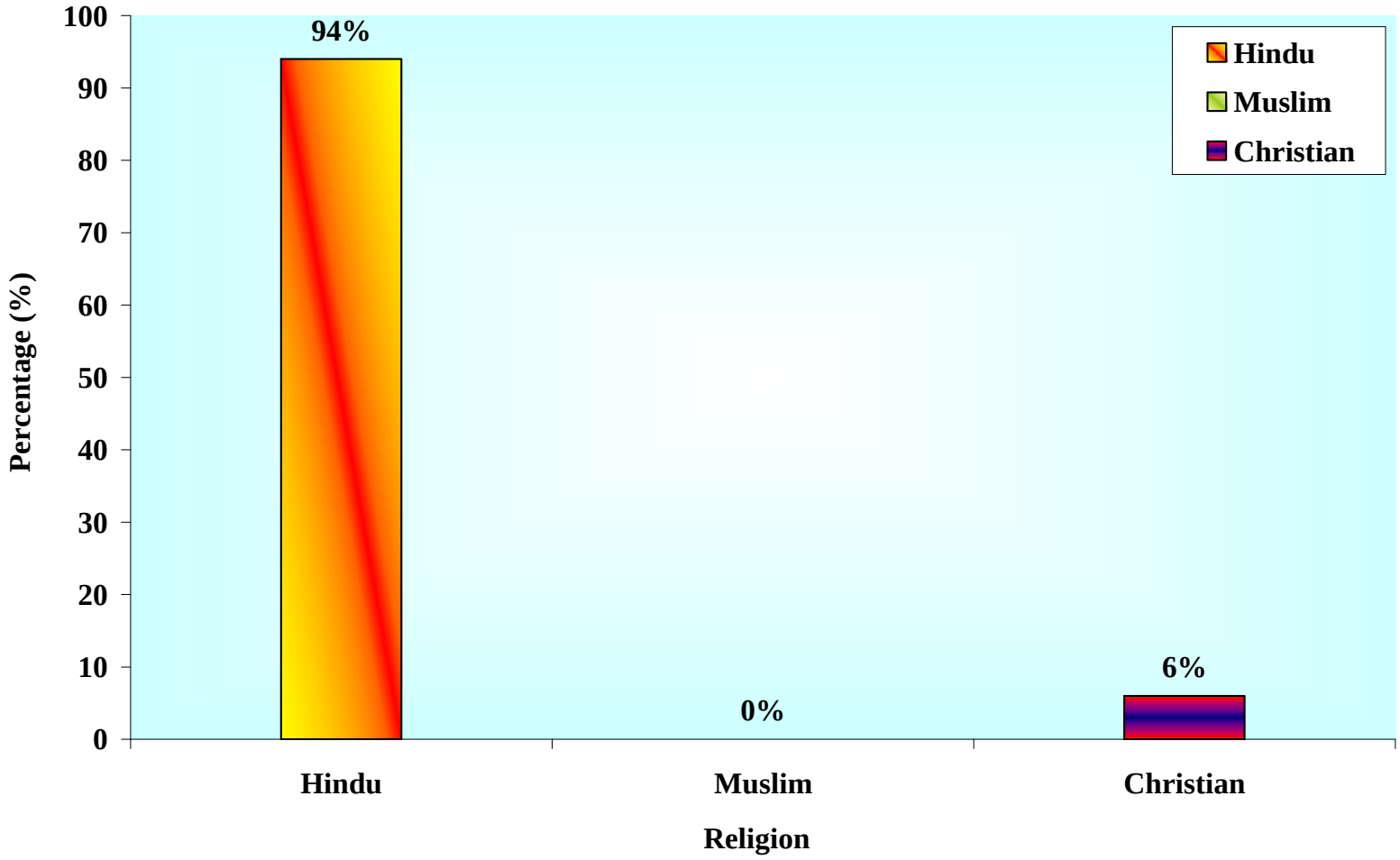

Figure. 6 Distribution of Demographic Variable According to the Religion

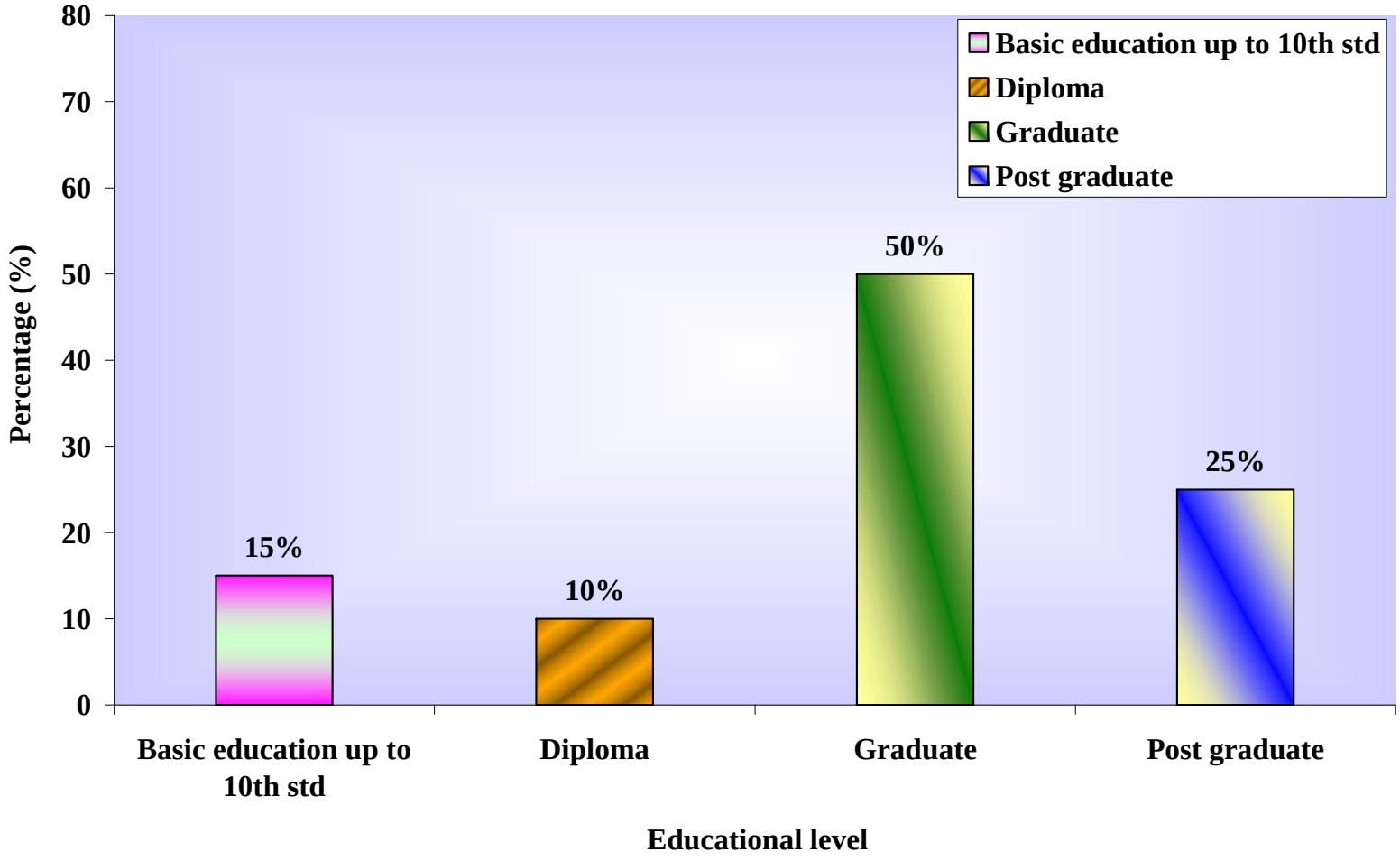

Figure. 7 Distribution of Demographic Variable According to the Education of Mother

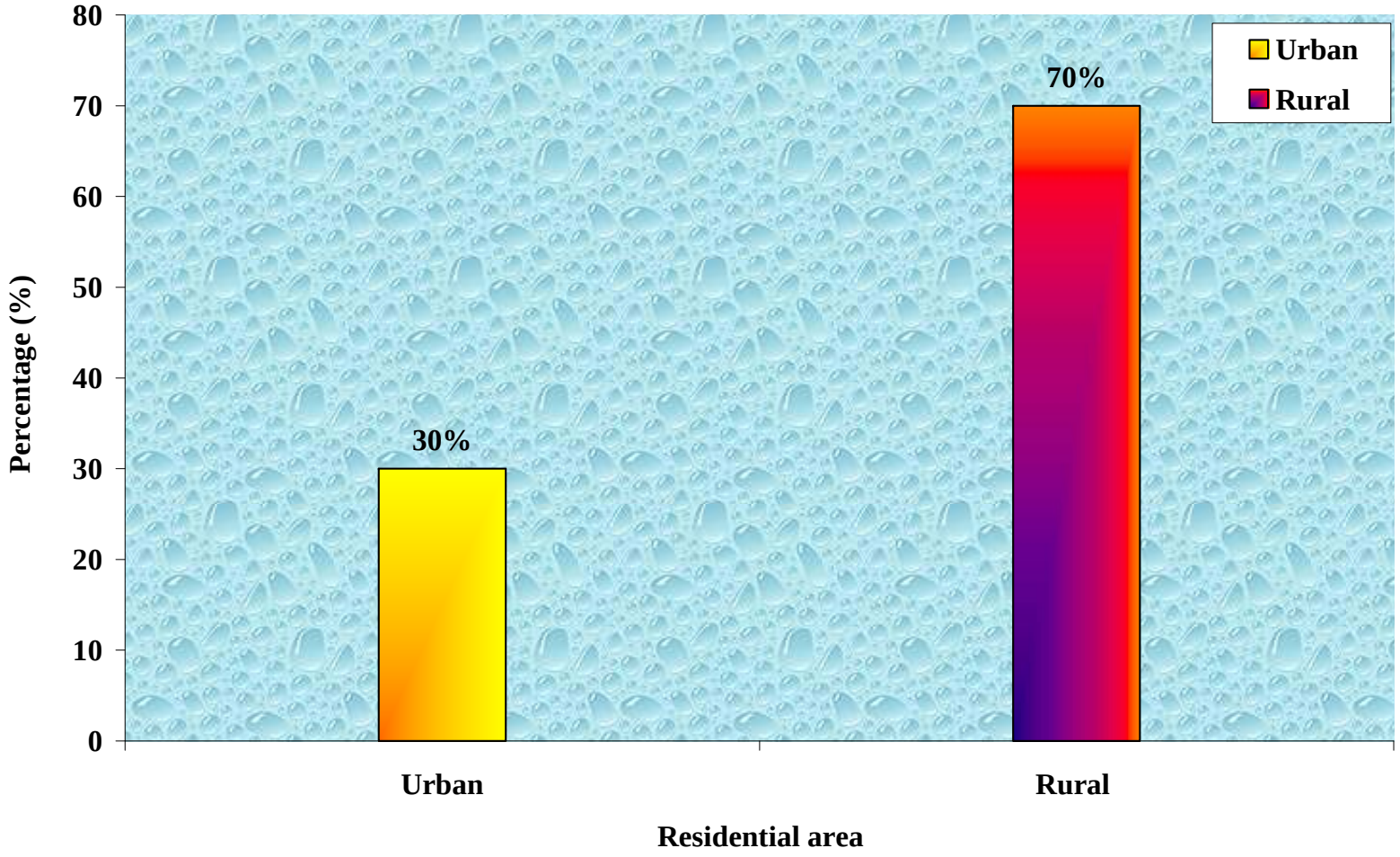

Figure. 8 Distribution of Demographic Variable According to the Residence

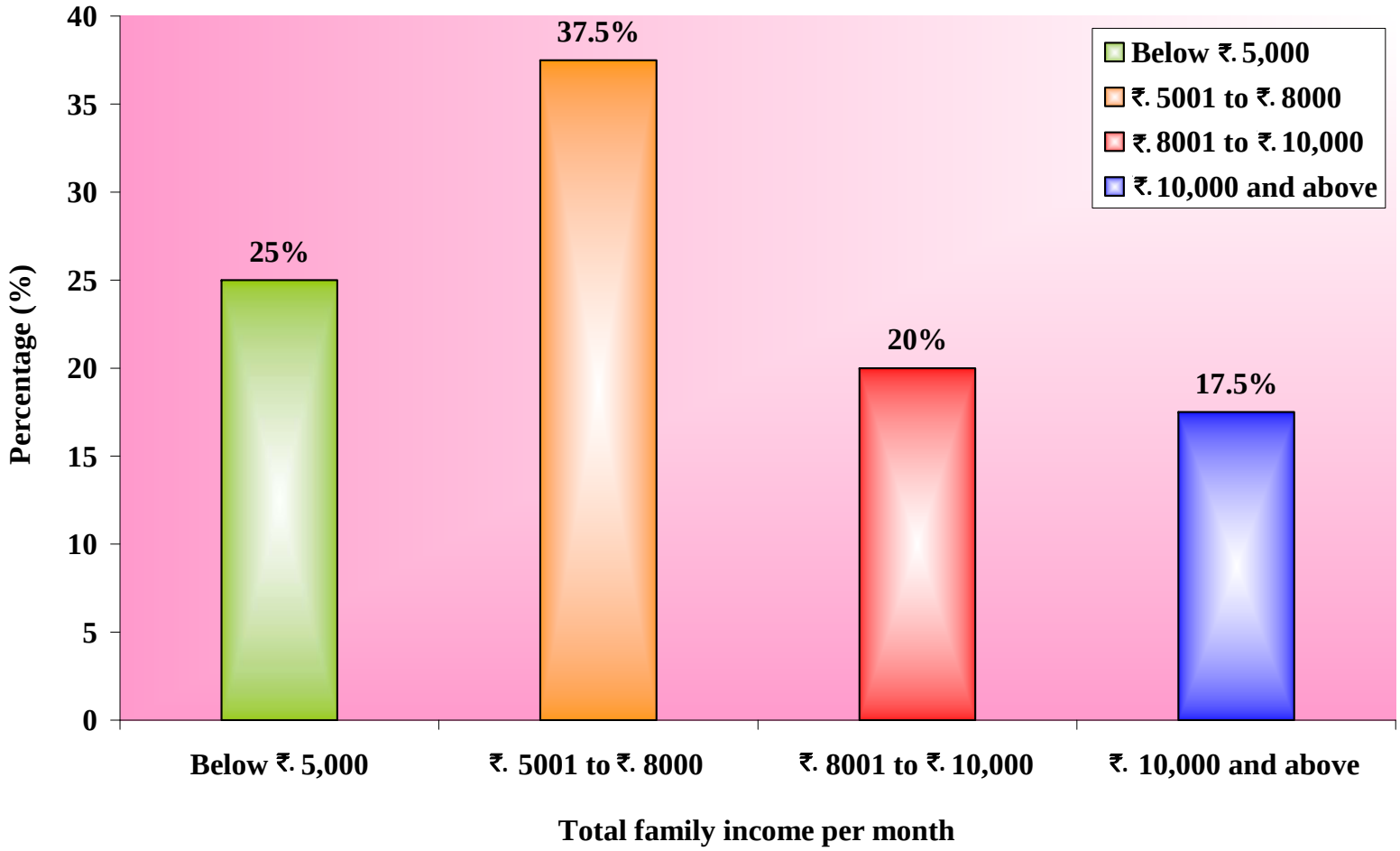

Figure. 9 Distribution of Demographic Variable According to the Family Monthly Income of Mother

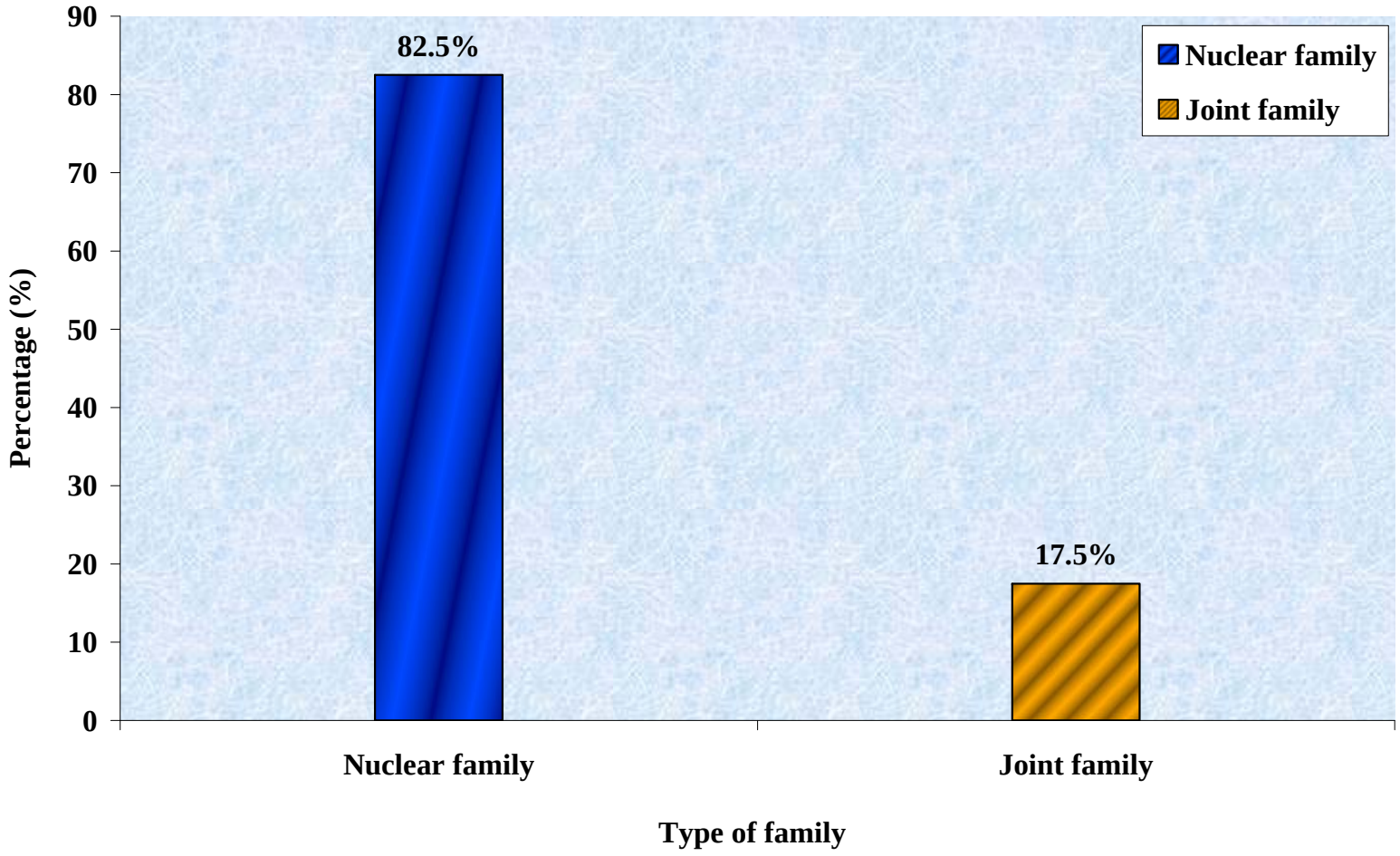

Figure. 10 Distribution of Demographic Variable According to the Type of Family

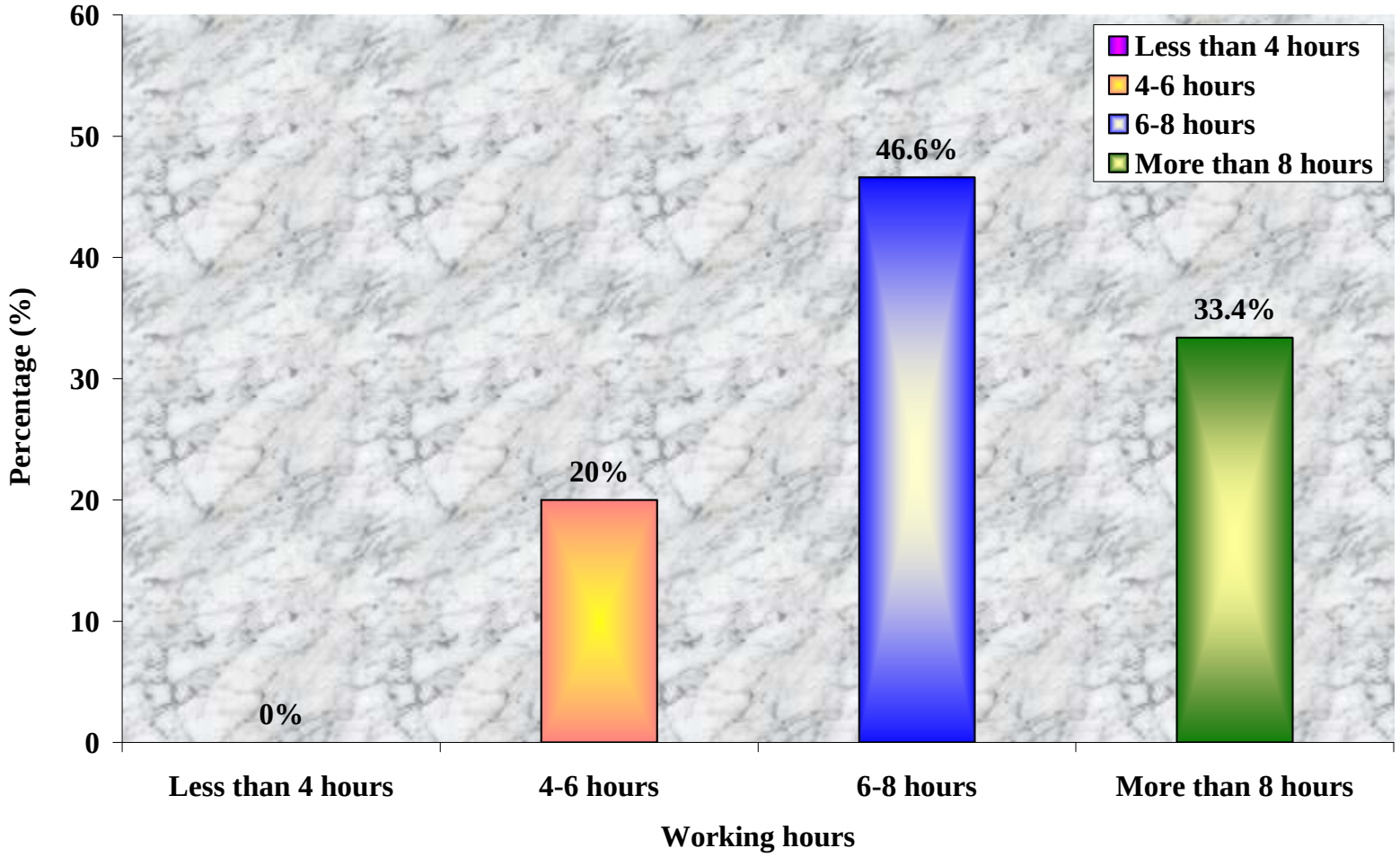

Figure. 11 Distribution of Demographic Variable According to the Working Hours

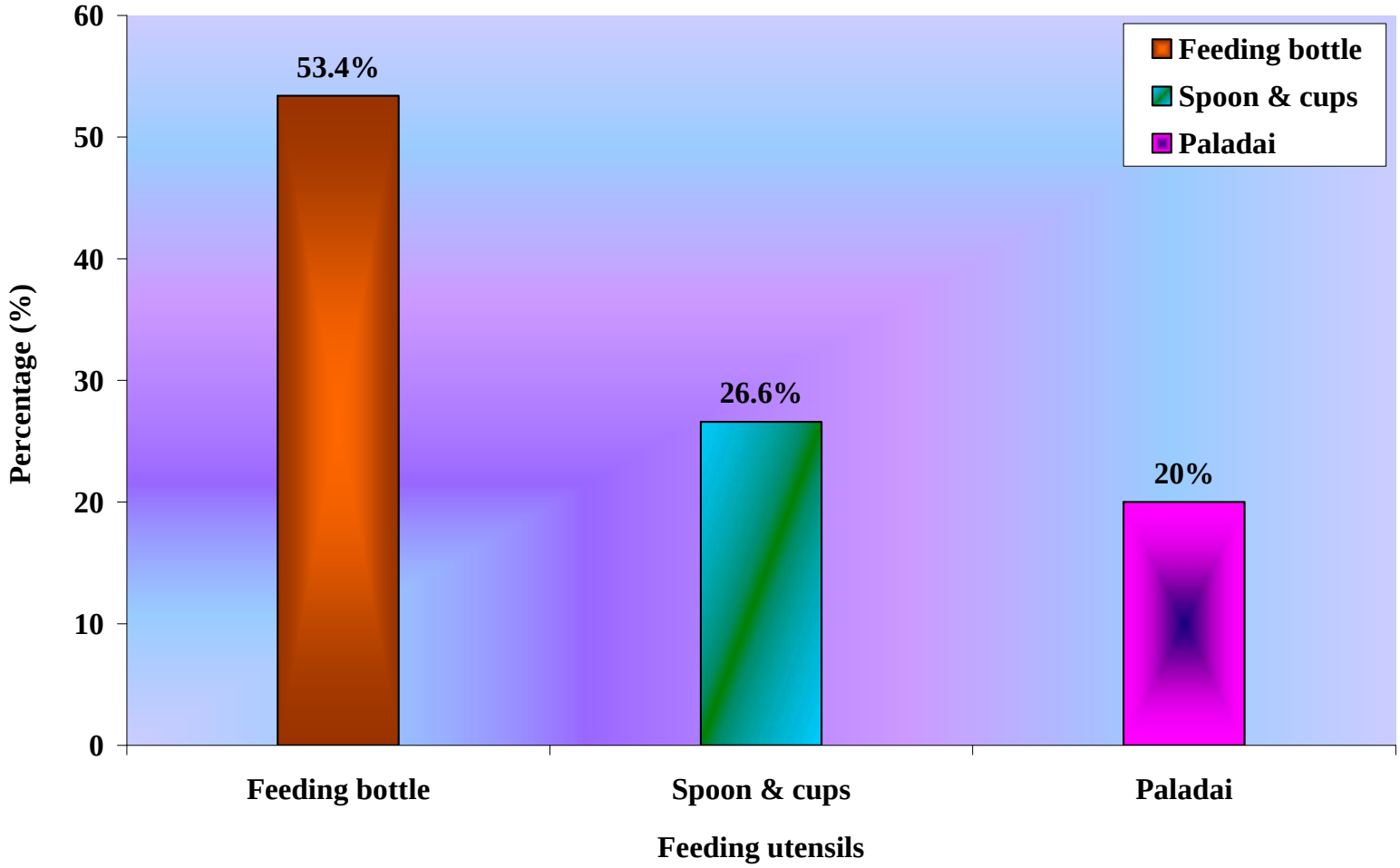

Figure. 12 Distribution of Demographic Variable According to the Feeding Utensils

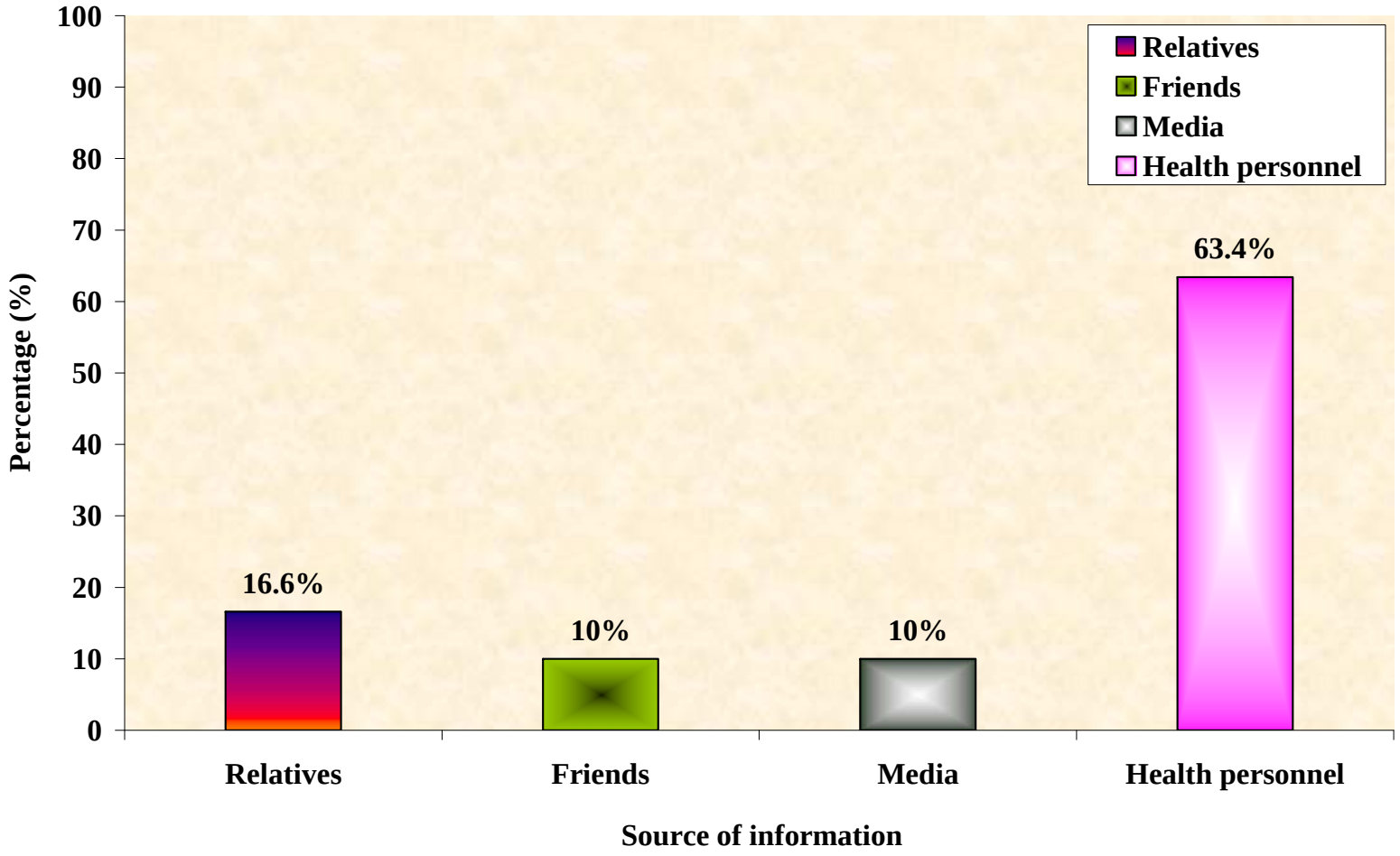

Figure. 13 Distribution of Demographic Variable According to the Source of Information

SECTION - II

Table. 2 Distribution of Statistical Value of Pretest and Post Test Knowledge on Expression and Storage of Breast Milk Among Employed Mothers

(n = 40)

S. No.	Knowledge	Mean	Standard Deviation	't' value	Level of Significance
1.	Pre test	16	3.35	9.35*	0.05
2.	Post test	29	2.54		

* significant

Table 2 shows the table value of 't'=9.35* at p=0.05 for 39 degree of freedom and calculated value of 't'=9.35 which is greater than the value. This shows that there is a significant difference on knowledge reporting expression and storage of breast milk before and after delivering health education.

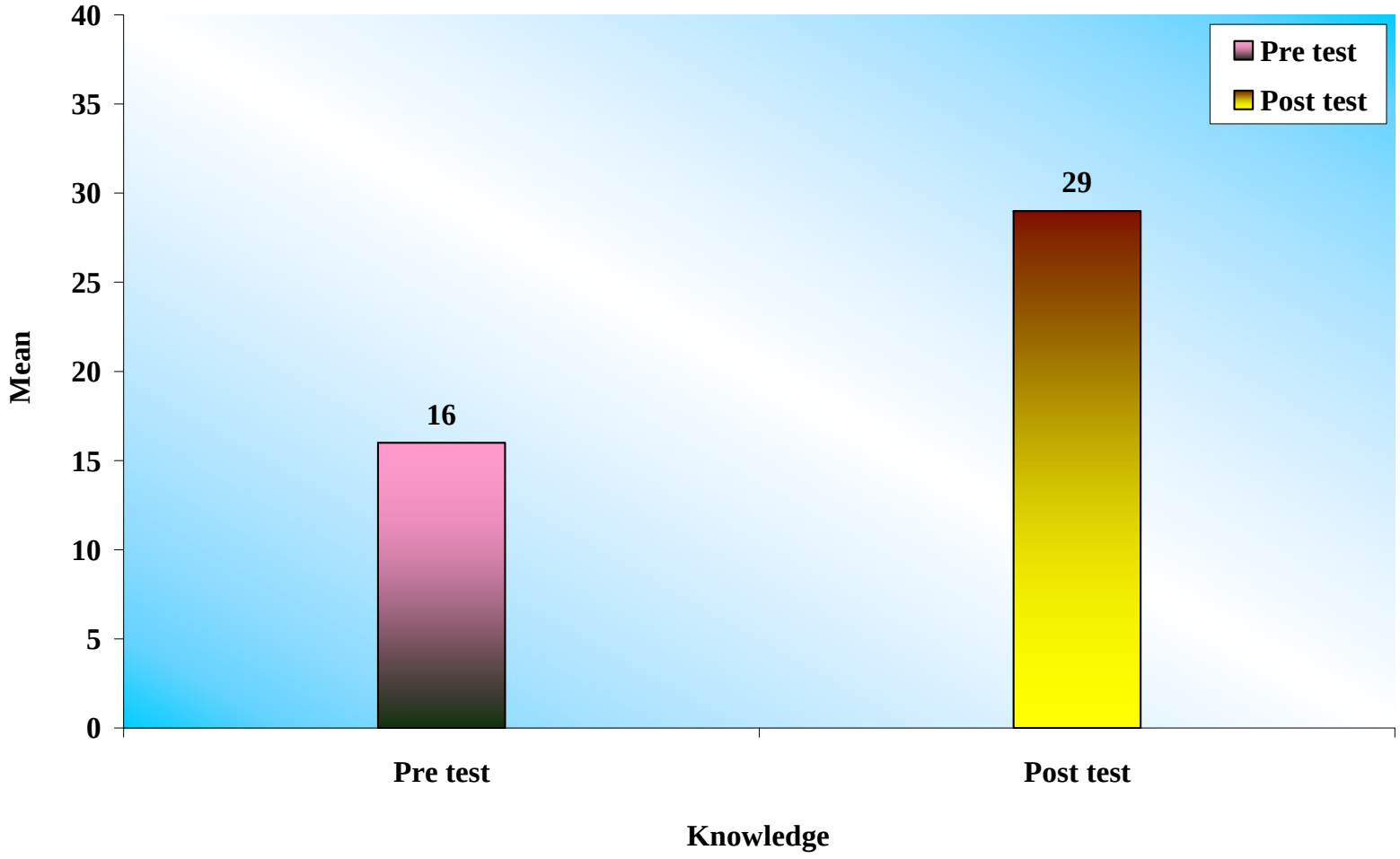

Figure. 14 Distribution of Mean Score of Pretest and Post Test on Knowledge Regarding Expression and Storage of Expressed Breast Milk

Table. 3 Distribution of Statistical Value of Pretest and Post Test Knowledge on Practice on Expression and Storage of Breast Milk Among Employed Mothers

(n = 40)

S. No.	Practice	Mean	Standard Deviation	't' value	Level of Significance
1.	Pre test	1.8	0.6	23.22*	0.05
2.	Post test	4.31	0.59		

* significant

Table 3 shows the table value of 't'= 1.694 at P=0.05 for 34 degree of freedom and calculated value of 't'= 23.22 which is greater than the table value. This shows that there is a significant difference on practice regarding expression and storage of breast milk. Hence the null hypothesis is accepted.

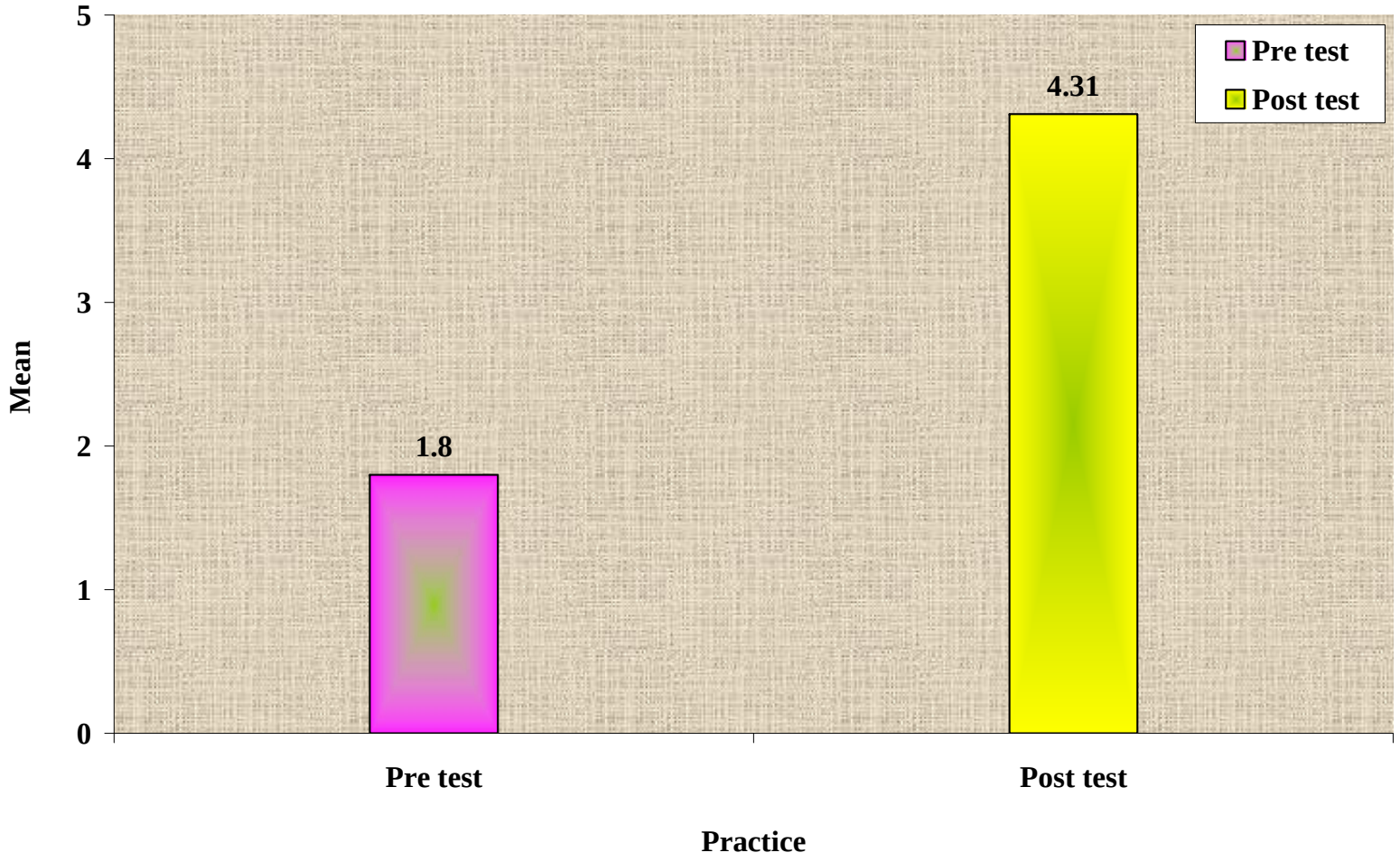

Figure. 15 Distribution of Mean Score of Pretest and Post Test on Practice Regarding Expression and Storage of Expressed Breast Milk

SECTION - III

Table. 4 Correlation Between Pretest Knowledge and Knowledge on Practice Scores Regarding Expression and Storage of Breast Milk Among Employed Mothers

(n = 40)

S. No.	Pre-test	Mean	S.D	r
1.	Knowledge	20.13	7.64	+ 0.50
2.	Knowledge on practice	9.1	3.34	

Table 4 shows there was a positive correlation between knowledge and knowledge on practice in pretest regarding expression and storage of breast milk among employed mothers.

Table. 5 Correlation Between Post Test Knowledge and Knowledge on Practice Scores Regarding Expression and Storage of Breast Milk Among Employed Mothers

S. No.	Post Test	Mean	S.D	r
1.	Knowledge	32.2	2.97	+ 0.715
2.	Knowledge on practice	13.96	2.0	

Table 5 shows there was a positive correlation between knowledge and knowledge on practice regarding expression and storage of breast milk among employed mothers.

SECTION - IV

Table. 6 Association of Employed Mothers Regarding Expression and Storage of Breast Milk of Post Test Knowledge Score with Demographic Variable

(n = 40)

S.No.	Demographic Variables	Above Mean	Below Mean	Degree of Freedom	χ^2
1.	**Age in years**				
	a) Below 20 years	2	0		
	b) 21-30 years	13	15	5	4
	c) Above 31 years	0	0		
2.	**Education status**				
	a) Primary	1	3		
	b) Secondary	9	1	3	11.72*
	c) Higher secondary	4	11		
	d) Graduate	1	0		
3.	**Family income**				
	a) Below ₹. 2000	8	2		
	b) ₹. 2001 - ₹. 5000	10	5	2	5.46
	c) Above ₹. 5001	3	2		
4.	**Religion**				
	a) Hindu	15	15		
	b) Christian	3	6	2	3.45
	c) Muslim	0	0		

(Table 6 continues)

(Table 6 continued)

S.No.	Demographic Variables	Above Mean	Below Mean	Degree of Freedom	χ^2
5.	**Occupation**				
	a) Self employed	15	11	2	3.40
	b) Private	0	3		
6.	**Type of family**				
	a) Nuclear	5	6	1	9.2*
	b) Joint	10	9		
7.	**Area**				
	a) Urban	7	2	1	5.275*
	b) Rural	8	13		
8.	**Source of information**				
	a) Health personnel	11	5		
	b) Relative	3	8	3	3.712
	c) Mother	1	2		
	d) Media	0	0		

*significant

Table 6 show that there is significant association of post test knowledge score of employed mothers regarding expression and storage of breast milk with demographic variables like educational status, type of family and area at 0.05 level. It reveals that there is no significant relationship with age, religion, income, occupation and source of information.

Table. 7 Association of Demographic Variables with Post Test Score of Knowledge on Practice of Employed Mothers Regarding Expression and Storage of Breast Milk

(n = 40)

S.No.	Demographic Variables	Above Mean	Below Mean	Degree of Freedom	χ^2
1.	**Age in years**				
	a) Below 20 years	2	0		
	b) 21-30 years	7	28	2	0.638
	c) Above 31 years	0	0		
2.	**Education status**				
	a) Primary	1	3		
	b) Secondary	8	2	3	13.617*
	c) Higher secondary	13	2		
	d) Graduate	1	0		
3.	**Family income**				
	a) Below ₹. 2000	5	5		
	b) ₹. 2001 - ₹. 5000	14	1	2	7.385
	c) Above ₹. 5001	4	1		
4.	**Religion**				
	a) Hindu	15	15		
	b) Christian	3	6	2	0
	c) Muslim	0	0		
5.	**Occupation**				
	a) Self employed	15	11	2	6.89*
	b) Private	0	3		

(Table 7 continues)

(Table 7 continued)

S.No.	Demographic Variables	Above Mean	Below Mean	Degree of Freedom	χ^2
6.	**Type of family**				
	a) Nuclear	16	3	1	10.88*
	b) Joint	7	4		
7.	**Area**				
	a) Urban	9	0	1	3.912*
	b) Rural	14	7		
8.	**Source of information**				
	a) Health personnel	14	2		
	b) Relative	8	3	3	4.131
	c) Mother	1	2		
	d) Media	0	0		

*significant

Table 7 shows the association of demographic variables like educational status, family income, occupation, type of family, area with post test knowledge on practice scores of employed mothers regarding expression and storage of breast milk and significant at 0.05 level. It reveals that there is no significant association of demographic variables like age, religion, source of information with the post test scores of knowledge on practice of employed mothers regarding expression and storage of breast milk.

CHAPTER - V

Result and Discussion

This is a pre experimental study intended to assess the effectiveness of self-instructional module regarding expression and storage of breast milk among employed mothers. The result of study was discussed according to these objectives.

The First Objective of this Study was to Assess the Knowledge Regarding Expressed Breast Milk Among Employed Mothers

The pretest score of knowledge regarding expression and storage of breast milk was 16 and in post test was 29. It shows the difference in pretest and post test. It implies that there was lack of knowledge regarding expression of breast milk among employed mothers in pretest which was enhanced by self instructional module.

A similar type of study was conduced by Jennifer Cullen in the year 2008. The pretest score of self-care activities was 9.5 and post test was 15.7. It revealed that the long term effect of providing education regarding expression and storage of breast milk among employed mothers was found to be more effective in continuing the breast feeding by practicing the expression of breast milk.

The Second Objective of the Study was to Assess the Knowledge on Practice Regarding Expression and Storage of Breast Milk Among Employed Mothers

The pre test is conduced by using structures interview method, pre test findings reveals that the mother have inadequate knowledge regarding expression and storage of breast milk. Among the selected aspects the mean value was low in

regarding to knowledge on expression and storage of breast milk in pre test. This result reveals that the women don't have knowledge on expression and storage of breast milk.

The pre test findings of practice reveals that majority of the mothers had low practice on the selected aspects of postnatal care. This reveals that expression and storage of breast milk has to be further increased through health education and publicity.

The post test is conducted by using the same structured interview method for the employed mothers. The data findings shows that there is an improvement in knowledge on practice regarding expression and storage of breast milk.

From the above findings it is clear that repeated health education programme, reinforcement and encouragement can enhance the knowledge on practice of employed mothers regarding expression and storage of breast milk.

The Third Objective of the Study was to Deliver Self-Instructional Module Regarding Expression and Storage of Breast Milk

The self-instructional module was given by LCD to all the employed mothers and was found to be effective as they clarified their doubts related to expression of breast milk.

A similar type of the study was done by Helen Mc Alistair (2006) providing education to all mothers and revealed that the education improved mothers knowledge

about expression of breast milk and led to reduce the incidence of disease in new born due to lack of breast milk.

The Third Objective of the Study was to Evaluate the Effectiveness of Self-Instructional Module Regarding Expression and Storage Breast Milk

The obtained ‘t’ value for expressed breast milk was 9.35 significant at 0.05 levels. It revealed that there was significant improvement in expression and storage of breast milk among employed mothers. The pretest mean score was 16 and post test mean score was 29.

A similar type of study was conducted by Susan (2007) showed that education to mothers about breast feeding and storage as an improvement of ‘t’ value 9.35 degree of freedom.

The Fourth Objective was to Find Out the Association Between Knowledge and Knowledge on Practice Regarding Expression and Storage of Breast Milk

Structured interview method was used to assess the post test practice on expression and storage of breast milk and the subject mean score was 9.46. the standard deviation score was0.54. the obtained ‘t’ value for practice was 9.35 significant at 0.05 level. It implies that there was significant difference on practice after the education regarding expression and storage of breast milk.

CHAPTER - VI

Summary, Conclusion, Nursing Implication, Limitations and Recommendations

Summary

The study was conducted to evaluate the effectiveness of self-instructional module regarding expression and storage of breast milk among employed mothers at selected hospitals.

The purpose of the study was to initiate the employed mothers regarding expression and storage of breast milk which will be useful for the growth and development of their babies.

The Following Objectives were Set for the Study

- To assess the knowledge regarding expressed breast milk among employed mothers.
- To deliver self-instructional module regarding expressed breast milk.
- To evaluate the effectiveness of self- instructional module regarding expressed breast milk among employed mothers.
- To find out the association between knowledge and knowledge on practice regarding expression and storage of breast milk with selected demographic variables.

The Alternative Hypothesis Set for The Study

There is a significant knowledge of working mothers regarding expression and storage breast milk.

Major Findings of the Study were as Follows

- The knowledge mean score of working mothers in pre test was 16 and post test was 29
- The obtained standard deviation value in present was 3.35 and post test was 2.54.
- The obtained ‘t’ value of comparison was 9.35.
- The pre test knowledge on practice mean score was 9.1
- The post test mean score of knowledge on practice was 13.96
- The correlation between pre test knowledge and knowledge on practice was +0.5
- The correlation between post test knowledge and knowledge on practice was +0.715

Conclusion

- The knowledge and practice of expression and storage of breast milk among employed mothers was improved after the teaching programme.
- The demographic variables such as religion, occupation has showed no association with knowledge and knowledge on practice. Age, education, family income, type of family and area was associated with post test knowledge on practice.

Nursing Implications

The finding of the study has implications in various areas of nursing education, practice, administration and nursing research.

Nursing Education

- The curriculum of nursing education consists of knowledge related to health information and appropriate strategy and for imparting the knowledge.

Nursing Education Should Emphasize on,

- Preparing the prospective nurse to know about the expressed breast milk and impart the health information.
- Assisting communities in developing their health care potentials.
- Enhance nursing curriculum with dissemination of health information using methods of education of education technology.

Nursing Practice

- Several implications may be drawn from the present study for nursing practice, nurses play a vital role.
- Health information can be imparted through various method like lecture, mass media, pamphlet, displays etc.
- Any teaching strategy which is simple, clear and attractive provides the interest for the learners to follow the instructions easily.
- Nurses have to gain knowledge regarding expressed breast milk and apply it in all areas of practice to help children in leading a healthy life.

Nursing Administration

- The nurse administrator need to motivate and initiate the health personnel in organizing, conducting and participating in various educational programmes that would contribute to better health care delivery.
- System, planning and organizing such a programme require efficient team work, man power, money, material, method and time to conduct successful educational programme.
- The health care system is responsible to provide patient educational service as an integral part of high qualities and cost effectivess.

Nursing Research

- There are various opportunities for the nurse to conduct the research on the expression and storage of breast milk and educated mother regarding expression and storage of breast milk.

Limitations

- The sample size was same comprising only 40 mothers.
- Convenient sampling technique was used.
- This study was limited to duration of one month.

Recommendations

- A similar study can be conducted using a large population of community.
- An intensive teaching state protocol may be developed in all aspects separately.

- A study can be made to assess the effectiveness of any teaching method of expression and storage of breast milk.
- A comparative study can be made to assess the effectiveness of hand method and pump method of expressing breast milk.
- A study also can be made on policies regarding expression of breast milk in institutions.
- Nursing curriculum should include breast feeding with special emphasis on expression and storage of breast milk.

REFERENCE

Books

- Abraham, (2001). "*Paediatrics*" (1st edition) Singapore: Mc. Grew Hill International company.
- Babak, I.M (2001*). Essential of Maternity and Maternity Nursing* Mosby company publications
- Barbara, (2000). *Pediatric Nursing.* (7th edition). London: Balkier Dell Publications
- Bannet, Myles, (1994). *Text Book of Midwives*. (20th edition). Ban press colour Books Publications
- Dorothy, Marlow. R (1998). *Text book of Pediatrics* (16th edition). Philadelphia W.B. Saunders company publications
- Dutta, (2009*). Pediatric Nursing*. (2nd edition). New Delhi: Jaypee Publications
- Ghai, O.P (2007). "*Essential Pediatrics'* (6th edition). New Delhi: CBS publications.
- Guptha S.P (2000). "*Statistical method*" (3rd edition). ND: Sultan Chand & sons Educational publications.
- Hama, Walkman (1995*). "The portable pediatrician for parents"* (1stedition). New York: Harpen Willies Publications
- Harjit Singh (1996*). "Text Book of Pediatric Nursing"* (18th edition). New Delhi; Mehta Offset Workers.
- Indrani, T.B (2000). "*Text Book of Midwifery"* (7th edition). New Delhi: Jaypee Brothers Publications

- Keshav, Sankar (2002). *"Nursing Practice and Procedure"* (1st edition). Indore: N.R Brothers Publications
- Kerlinger F.N (1983). ' *Foundation of Behavioural Rsearch"* (2nd edition).ND: Surjeth Publications.
- Mandalian A.I (1983*). " Clinical Obstetrics"* (1st edition) . Orient Longman Publications.
- Maria, Hastings T. (2003*). "Fundamentals of Nursing Research"* (3rd edition). Boston Publications.
- Meharban Singh, (1999). *"Care of Newborn" (*3rd edition). New Delhi.
- Meharban Singh, (2003). *"Clinical Methods"*. New Delhi: SagarPublications.
- Movak S.C. (1995*). "Maternal Child Health Nursing"*. St Lousis: Mosby Publications.
- Elizabeth, (2009*). "Nutrition of child Development"* (1st edition). Paramedical Publications
- Neklson, (1998*). "Textbook of paediatrics Nursing"* (16st edition). Philadelphia: Harcourt International Publications.
- Reada, S.S (1983). *"Maternity Nursing"* (18th edition). Lippincott Publications.
- Panda, V.N. (2002*). "Handbook of paediatrics"(*1st edition). New Delhi:CBS Publications.
- Nancy, Barns (1999). *"An Introduction to Biostatistics a Manual for Students in Health Science"* (3rd edition). ND Prentice Indian Publications.
- Staci, Nix 92005). *"Basic Nutrition and Diet Therapy"* (1st edition). Philadelphia: Elsevier Publications.
- Suraj Gupta, (1998). "Textbook of Essential Pediatric Nursing" (8thedition). New Delhi: Jaypee Brothers Publications.

- Wagle, C.S (1993). "*Short Textbook of paediatrics"* (1st edition). Bombay: Vorasa Medical publications.

Journals

- AIMS. (2006). Feeding of Normal and Low Birth Weight babies, *Nightingale Nursing Times* 6(2). 4-8.
- Ambedkar. N.et.al (1999). Use of Commercial feeding formula among urban Children in Nagpur. 24(1) 69-74.
- American Association of Pediatrics (1997), Breast Feeding and the use of health workers, *pediatrics,* 100.103-109
- AnitaMalden (2001), Breast feeding by employed women's *paediatrics,*73(644-648).
- Arinda Fernandez. (2006). Breast feeding. Prim's *Nursing practice.* 1 (3). 111-118.
- ArunPhatak (2010). The ten steps and baby friendly hospital initiative. *Nightingale Nursing Times*.6 (5) 3.
- Avery.D.Mellisa, (1998). Maternal employed and breast feeding. *Journals of diseased child*.138.58-60.
- Bhavani. (2009). Breastfeeding practice of working mothers in an urban area, *Indian Pediatrics*. 834-838.
- Chalatte(2009). Expressed breast milk: Safety on hospital. *American Journal of Nursing,* 109(2) 54-55.
- Devadass, (1999). Trends in breast feeding practices, *Journal of Indian Nutrition and Dietetics.* 13(4) 1-11.

- Gandhimathi, Mother- Mother approach to breast feeding promotion, *Prim's Nursing Practice*.(2) 1. 22-24.
- Okla (1999). Factors influencing excessive breast feeding, *Journal of obstetrics and gynecology and neonatal nursing*.22.25-31.
- Ryan A.S, (1997). Breast feeding and working mothers. *Paediatrics 83.524-531.*
- Seugal, et.al., (2006). Breast feeding practice, *Journal of obstetrics and gynecology today* 9(4).240-243.
- SwaranLatha, (2001). Breast feeding practice among female health functions Aries, *The nursing journal of india.*No.4.25-28.
- Wang. Y.S, (1999). The effect of exclusive breast feeding on development and incidence of infection, *journal of human lactation*,12.2-35.

Online Abstract

- Arnsberg, M.B. (2006). The effect of employment status on breast feeding in the United States, retrieved from *www.pubmed.com*.
- Bedair, R. F, et.al (2005). Stored expressed breast milk on alternative for working Egyptian mothers, retrieved from *www.medline.com.*
- Cindy. L, (2004). Expression of milk by manual massage, using breast pump, retrieved from *www.pubmed.com.*
- Dickson. (2004). Breast milk expression in the work place, retrieved from*www.pubmed.com.*
- Garstien, (2003). Expression and storage of colostrums with advice about skin to skin contact in the first 24 hours, retrieved from *www.pubmed.com.*
- Garza, 2006). Specific recommendation and storage of milk, retrieved from*www.medline.com.*

- Graham S, (2008). Breast feeding referred to as “liquid gold”, retrieved from*www.pubmed.com.*
- Johnson, M. L. (2007). Barriers and facilitators for breast feeding among working mothers in the United States, retrieved from *www.pubmed.com*.
- Klein, M. J. (2002). Expression of breast milk is an important strategy to continue exclusive breast feeding, retrieved from *www.medline.com.*
- Lasson, M. (20010. Efficacy of breast milk expression (2006) retrieved from*www.pubmed.com*.
- McLaughlin’s (2002). Plastic containers are best choice for storing breast milk, retrieved from *www.pubmed.com.*
- Miranda, M.et.al. (2002). Effect of refrigerator of bactericidal activity of human milk, retrieved from *www.medline.com.*
- Melisakotten, (2005). Importance and value of breast milk, retrieved from*www.pubmed.com.*
- Naeem, Z. (2007). Guidelines for safe storage and use, retrieved from *www.pubmed.com*.
- Nicki. (2007). Guidelines for safe storage and use, retrieved from *www.pubmed.com*
- Silvestre, D, el.al (2006). Bactericidal activity of human milk stability during storage, retrieved from *www.pubmed.com.*
- Van Greet. (2007). Manual massage or using a breast pump mothers can express breast milk and store, retrieved from *www.medline.com.*
- Yeonbai, (1999). The study to investigate the relative importance of psychological factors to continue breast feeding, retrieved from *www.pubmed.com.*

ABSTRACT

Statement of the Problem : A Study To Evaluate The Effectiveness Of Self-instructional Module Regarding Expression And Storage Of Breast Milk Among Employed Mothers At Selected Hospitals. **Study Objectives : (a)** To assess the knowledge regarding expression and storage of breast milk among employed mothers. **(b)** To assess the knowledge on practice regarding expression and storage of breast milk among employed mothers. **(c)** To deliver self-instructional module regarding expressed breast milk. **(d)** To evaluate the effectiveness of self-instructional module regarding expression and storage breast milk among employed mothers. **(e)** To find out the association between knowledge and knowledge on practice regarding expression and storage of breast milk with selected demographic variables. **Methodology :** Experimental study design. The sample for the study consists of 40 employed mothers selected by convenient sampling technique. A structured questionnaire was used to assess the knowledge attitude respectively. **Result :** Descriptive statistics were used to analyse the values. The obtained “t” value was 9.35. **Conclusion :** The study revealed that there is a significant difference in pre test and post test among employed others.

P.P.G COLLEGE OF NURSING

(A Unit of P. Perichi Gounder Memorial Charitable Trust)
(Affiliated to the Tamilnadu Dr. MGR Medical University)
(Approved by Government of Tamilnadu)
(Recognised by Indian Nursing Council)
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E-mail: aswinhospital@touchtelindia.net * Website: www.ppgcollege.org

To

Through

The Principal,

PPG College of Nursing

Coimbatore – 35.

Respected Sir,

Sub : Seeking permission for conducting research study

I am a student of M.Sc Nursing in PPG College of Nursing. Our college is affiliated to the Tamilnadu Dr. M. G. R Medical University, Chennai. I have taken the specialization in Obstetrics and Gynaecology Nursing.

Topic : A STUDY TO EVALUATE THE EFFECTIVENESS OF SELF-INSTRUCTIONAL MODULE REGARDING EXPRESSION AND STORAGE OF BREAST MILK AMONG EMPLOYED MOTHERS AT SELECTED HOSPITALS

I request you to kindly permit me to conduct my study in your Hospital. Hope you will consider my requisition and do the needful.

Thanking you,

Yours sincerely,

Date :

Place : Coimbatore

Requisition Letter for Content Validity

From

M.Sc (N) II Year,
PPG College of Nursing,
Coimbatore – 35.

To

Through : Principal, PPG College of Nursing

Respected Sir/Madam,

Sub : Requisition for expert opinion and suggestion for content validity of tool

I am a student of M.Sc (N) II year, PPG College of Nursing affiliated to the Tamilnadu Dr. M. G. R. Medical University, Chennai. As a partial fulfillment of the M.Sc (N) programme. I am conducting.

A STUDY TO EVALUATE THE EFFECTIVENESS OF SELF-INSTRUCTIONAL MODULE REGARDING EXPRESSION AND STORAGE OF BREAST MILK AMONG EMPLOYED MOTHERS AT SELECTED HOSPITALS

Herewith I have enclosed the developed tool for content validity and for the expert opinion and possible solution. It would be very kind of you to return the same as early as possible.

Thanking you,

Yours faithfully,

PPG College of Nursing

Format for the Content Validity

Name of the expert :

Address :

Total content for the tool :

Kindly validate each tool and tick wherever applicable

S.No	No. of Tool/Section	Strongly Agree	Agree	O.K	Not Applicable	Need Modification	Remarks

Remarks

Signature of the Expert with Date

LIST OF EXPERTS

1. **Prof. S.RENUKA, M.Sc.,**

   Department of Obstetrics & Gynaecology,

   KMCH College Of Nursing,

   Coimbatore.

2. **Prof. MUMTAZ, M.Sc.**,

   Department of Obstetrics & Gynaecology,

   Annai Meenakshi College Of Nursing,

   Coimbatore.

3. **Prof. CHARMINI JEBAPRIYA, M.Sc.,**

   Principal,

   Texcity College Of Nursing,

   Coimbatore.

4. **Prof. ESTHER JOHN, M.Sc.,**

   Principal,

   Ganga college of nursing,

   Coimbatore.

5. **Prof. SHEEBA, M.Sc.,**

   Department of obstetrics & gynaecology,

   KG college of nursing,

   Coimbatore.

PART - A

Demographic Data

Instructions

Kindly go through each item of the questionnaire carefully and indicate your response by placing a (✓) tick mark in the given box

Sample No. _____

1. Age of the mother
    a) 22 to 24 years ☐
    b) 24 to 26 years ☐
    c) 26 to 28 years ☐
    d) 28 to 30 years ☐

2. Educational status of the mother
    a) Basic education upto 10^{th}std ☐
    b) Diploma ☐
    c) Graduate ☐
    d) Post Graduate ☐

3. Occupational status of the mother
    a) Self employed ☐
    b) Labour ☐
    c) Office work ☐
    d) Government employee ☐

4. Total family monthly income

    a) Below ₹. 8000 ☐

    b) ₹. 8001 to ₹. 10000 ☐

    c) ₹. 10001 to ₹. 15000 ☐

    d) ₹. 15000 and above ☐

5. Type of family

    a) Nuclear family ☐

    b) Joint family ☐

6. Working hours

    a) Less than 6 hours ☐

    b) 6 to 8 hours ☐

    c) 8 to 10 hours ☐

    d) More than 10 hours ☐

7. Feeding Utensils

    a) Feeding bottles ☐

    b) Spoon and cup ☐

    c) Paladai ☐

8. Source of Information

    a) Relatives ☐

    b) Friends ☐

    c) Media ☐

    d) Health personnel's ☐

PART – B

Knowledge Questionnaire

Instructions

Read the following questions carefully and give tick (✓) in a given boxes for correct answers

1. Breast feeding is ----------

    a) Artificial feeding ☐

    b) Bottle feeding ☐

    c) Natural feeding ☐

    d) Spoon feeding ☐

2. Breast feeding meets the nutrition as well as ---------

    a) Emotional need ☐

    b) Physiological needs ☐

    c) Psychological needs ☐

    d) Emotional needs ☐

3. Breast feed protect the mother from---------

    a) Stomach cancer ☐

    b) Blood cancer ☐

    c) Breast and ovarian cancer ☐

    d) Bone cancer ☐

4. Rooming in is--------

    a) Only baby in the room ☐

    b) Only mother in the room ☐

    c) Both baby and mother together in the room ☐

    d) Baby with relatives ☐

5. In rooming in the baby stays with the mother----------

    a) Partial time ☐

    b) Entire time ☐

    c) When needed ☐

    d) Partial attachment ☐

6. Bonding is the ----------

    a) Extense attachment ☐

    b) Intense attachment ☐

    c) No attachment ☐

    d) Partial attachment ☐

7. Bonding develops relationship between--------

    a) Relatives and baby ☐

    b) Parents and baby ☐

    c) Neighbour and baby ☐

    d) Father and baby ☐

8. The nerve fibre transmit the message to------

   a) Hypothalamus ☐
   b) Medulla oblongata ☐
   c) Cerebrum ☐
   d) Cerebellum ☐

9. Reflexes related to breast feeding--------

   a) Only sucking reflex ☐
   b) Only swallowing reflex ☐
   c) Both sucking and swallowing reflex ☐
   d) Gag reflex ☐

10. Expressed breast milk is -------

   a) Natural method ☐
   b) Mechanical method ☐
   c) Manual and mechanical method ☐
   d) Natural and mechanical method ☐

11. An expressed breast milk is--------

   a) Squeezing the milk from breast ☐
   b) Sucking the milk by baby ☐
   c) Stored breast milk ☐
   d) Natural breast milk ☐

12. Exclusive breast feeding should be given for----------

a) 1 month ☐

b) 3 months ☐

c) 6 months ☐

d) 1 year ☐

13. Mother express the milk for

a) Baby needs extra milk ☐

b) Baby may not able to suck ☐

c) Mother is going back to work ☐

d) All the above ☐

14. Before expressing the breast milk the mother should----------

a) Pump the milk ☐

b) Massage the breast ☐

c) Do exercise ☐

d) Take heavy meals ☐

15. The amount of milk produced in first 24 hours is---------

a) 200-300ml ☐

b) 300-500ml ☐

c) 400-600ml ☐

d) 350-650ml ☐

16. The amount of milk produced in 2-3 weeks is------

a) 200-400ml ☐

b) 400-500ml ☐

c) 500-600ml ☐

d) 600-700ml ☐

17. The time taken for expressing the breast milk by hand is----

a) 15 minutes ☐

b) 10 minutes ☐

c) 20 minutes ☐

d) 30 minutes ☐

18. Expressed breast milk can be given to the baby by--------

a) Feeding bottle ☐

b) Paladai, spoon ☐

c) Small vessel ☐

d) Bowl ☐

19. The cheapest method of expressing the breast milk is------

a) By electric breast pump ☐

b) By hand ☐

c) Hand help breast pump ☐

d) Artificial method ☐

20. The most time saver method is----------

a) By hand ☐
b) Hand-held breast pump ☐
c) Electric breast pump ☐
d) Other instruments ☐

21. The best choice of a storage container for expressed breast milk in the refrigerator in-------

a) Closed plastic container ☐
b) Closed glass container ☐
c) Steel or metallic containers ☐
d) Any containers ☐

22. The temperature maintained in the fridge to store expressed breast milk is --------

a) Above 4º C ☐
b) 4ºC or lower ☐
c) 4º C or 8ºC ☐
d) Above 8ºC ☐

23. The milk that can be used within 8 days of expression should be stored in-------

a) Refrigerator ☐
b) Freezer ☐
c) Room temperature ☐
d) Any container ☐

24. Antimicrobial properties are better preserved in----------

y) Freezer ☐

z) Room temperature ☐

aa) Refrigerator ☐

bb) Boiled breast milk ☐

25. It is necessary to leave about an inch at the top of the container because-------

a) The bottle burst when frozen ☐

b) When frozen the milk will expand ☐

c) For adequate air supply ☐

d) To prevent the decaying of milk ☐

26. Refrigerate the breast milk within-------

a) Immediately after expression ☐

b) Within 15 minutes ☐

c) Within 1 hour ☐

d) With a day ☐

27. If the milk is used in 3-5 days it should be kept in-------

a) At the fridge door ☐

b) In the back of the fridge ☐

c) Freezer inside the fridge ☐

d) Freezer separate from fridge ☐

28. Expressed breast milk can be kept in ---------

a) Oven ☐
b) Freezer ☐
c) Refrigerator ☐
d) Room temperature ☐

29. The type of container can be used to express the breast milk

a) Small bottle ☐
b) A cup with wide mouth ☐
c) Low neck bottle ☐
d) Small glass ☐

30. While combining the fresh expressed breast milk with previous expressed breast milk we should---------

a) Cool ☐
b) Heat ☐
c) Thawing ☐
d) Not mix ☐

31. The amount of breast milk expressed at once in---------

a) 1-3 ounce ☐
b) 2-4 ounce ☐
c) 4-6 ounce ☐
d) 5-8 ounce ☐

32. To warm the breast milk place the container in---------

a) Bowl with warm water ☐

b) Microwave oven ☐

c) Steaming ☐

d) Normal room temperature ☐

33. Freshly expressed breast milk can be stored in room temperature for-------

a) 3 hours ☐

b) 6 hours ☐

c) 12 hours ☐

d) 24 hours ☐

34. Frozen breast milk can be stored in room temperature for-------

a) 1 hour ☐

b) 4 hours ☐

c) 12 hours ☐

d) 24 hours ☐

35. Before serving the stored milk to the baby it should be swirl in order to--------

a) Bring its normal appearance ☐

b) Redeposit the fats that separate from the milk ☐

c) Make it thicker ☐

d) Prevent spoilage ☐

36. The milk should be scald before storing in order to----------

a) Preserve it for more days ☐
b) To keep the antimicrobial properties ☐
c) Keep the milk from spoiling ☐
d) To reduce soring of milk ☐

37. Thawing is--------

a) Boiling ☐
b) Freezing ☐
c) Cooling ☐
d) Boiling ☐

38. Thaw the frozen breast milk by---------

a) Boiling it ☐
b) Keeping it in hot water ☐
c) Moving it from freezer to fridge ☐
d) Keeping it under running water ☐

39. The milk should not be over heat, because-------

a) It will cause hot spots in the milk ☐
b) It will destroy some of the nutrients ☐
c) It will remove the fat from the milk ☐
d) It will change the taste of the milk ☐

40. Micro waved breast milk causes--------

a) Hot spots in milk ☐

b) Decaying of milk ☐

c) Warm the milk ☐

d) Change in the taste of milk ☐

PART - C

Practice Questionnaire

Instructions

Read the following questions carefully and give tick (✓) in a given boxes for correct answers

S.No.	Questions	Yes	No
1.	Do you breast feed your baby?		
2.	Do your express the milk regularly?		
3.	Do you maintain breast feeding hygiene before feeding?		
4.	Do you sterile the bottle before each expression?		
5.	Do you store the milk at correct temperature?		
6.	Do you massage your breast before expressing the milk?		
7.	Do you store the milk in refrigerator?		
8.	Do you feel any difficulty in expressing the milk?		
9.	Do you provide the milk to the baby at regular intervals?		
10.	Do you discard off feed the remaining milk which is in the bottle?		

SECTION - II

Answer Keys

S.No.	Answer	Score
1.	a	1
2.	c	1
3.	d	1
4.	a	1
5.	a	1
6.	b	1
7.	b	1
8.	d	1
9.	a	1
10.	b	1
11.	c	1
12.	d	1
13.	a	1
14.	d	1
15.	a	1
16.	b	1
17.	d	1
18.	b	1
19.	c	1
20.	a	1
21.	d	1
22.	c	1
23.	d	1
24.	a	1
25.	b	1
26.	b	1
27.	c	1
28.	b	1
29.	d	1
30.	a	1
31.	d	1
32.	b	1
33.	c	1
34.	d	1
35.	a	1
36.	b	1
37.	b	1
38.	a	1
39.	d	1
40.	a	1

PART - C

Question Number	Answer Keys	Score
1.	Yes	1
2.	Yes	1
3.	Yes	1
4.	Yes	1
5.	Yes	1
6.	Yes	1
7.	Yes	1
8.	No	1
9.	Yes	1
10.	Yes	1

பாகம் - அ

நேர்காணல் படிவம்

குறிப்புகள்

கீழே கொடுக்கப்பட்டுள்ள விவரங்களை சரியான (✓) குறியை இட வேண்டும்.

மாதிரி எண் : _____

1. வயது:

அ) 22-24 வயது வரை ☐

ஆ) 24-26 வயது வரை ☐

இ) 26-28 வயது வரை ☐

ஈ) 28-30 வயது வரை ☐

2. தாயின் தொழில்

அ) வீட்டுத் தொழில் ☐

ஆ) கூலித் தொழிலாளி ☐

இ) அலுவலக வேலை ☐

ஈ) அரசாங்க வேலை ☐

3. தாயின் படிப்பு

அ) பத்தாம் வகுப்பு ☐

ஆ) டிப்ளமோ ☐

இ) பட்டப்படிப்பு ☐

ஈ) மேல் படிப்பு ☐

4. தாயின் வருமானம்

அ) ₹. 5000க்கு கீழ் ☐

ஆ) ₹. 5001 முதல் ₹. 10000 வரை ☐

இ) ₹. 8001 முதல் ₹. 10000 வரை ☐

ஈ) ₹. 10001 க்கு மேல் ☐

5. குடும்பத்தின் வகை

அ) தனிக்குடும்பம் ☐

ஆ) கூட்டுக்குடும்பம் ☐

6. வேலை செய்யும் நேரம்

அ) <4 மணி நேரம் ☐

ஆ) 4-6மணி நேரம் ☐

இ) 6-8மணி நேரம் ☐

ஈ) >8 மணி நேரம் ☐

7. பாலூட்ட உபயோகப்படுத்தும் சாதனம்

அ) பால் புட்டி ☐

ஆ) கரண்டி மற்றும் டம்ளர் ☐

இ) பாலாடை ☐

8. தகவல்களை சேகரிப்பது

அ) உறவினர் ☐

ஆ) நண்பர்கள் ☐

இ) ஊடகம் ☐

ஈ) மருத்துவ ஊழியர்கள் ☐

பாகம் - ஆ

குறிப்புகள்

கீழே கொடுக்கப்பட்டுள்ள விவரங்களை சரியான (✓) குறியை இட வேண்டும்.

1. தாய்ப்பால் ஊட்டுதல் என்பது

அ) செயற்கையாக ஊட்டுதல் ☐

ஆ) புட்டியின் மூலம் ஊட்டுதல் ☐

இ) இயற்கையான முறையில் ஊட்டுதல் ☐

ஈ) கரண்டியின் மூலம் ஊட்டுதல் ☐

2. தாய்ப்பால் ஊட்டுதல் உடல் ஆரோக்கியம் பேணுதல் மட்டும் அல்லாமல்

அ) தீவிர உணர்ச்சியை பூர்த்தி செய்கிறது ☐

ஆ) உடல் ரீதியான தேவையை பூர்த்தி செய்கிறது ☐

இ) மன ரீதியான தேவையை பூர்த்தி செய்கிறது ☐

ஈ) தீவிர உணர்ச்சி மற்றும் மன ரீதியான தேவையை பூர்த்தி செய்கிறது ☐

3. தாயும் சேயும் சேர்ந்து இருத்தல் என்பது

அ) குழந்தை மட்டும் அறையில் இருத்தல் ☐

ஆ) தாய் மட்டும் அறையில் இருத்தல் ☐

இ) தாயும் குழந்தையும் ஒன்றாக கட்டிலில் இருத்தல் ☐

ஈ) குழந்தை உறவினர்களுடன் இருத்தல் ☐

4. தாயும் சேயும் ஒன்றாக எவ்வளவு நேரம் சேர்ந்து இருத்தல் வேண்டும்?

அ) குறைந்த நேரம் ☐

ஆ) முழு நேரம் ☐

இ) தேவைப்படும் பொழுது ☐

ஈ) பூர்த்தி ஆகும் வரை சேர்ந்து இருத்தல் ☐

5. பிணைப்பு என்பது

அ) வெளிப்புறமான உறவு ☐

ஆ) தீவிரமான உறவு ☐

இ) சேராதிருத்தல் ☐

ஈ) குறைந்த நேரம் சேராதிருத்தல் ☐

6. பிணைப்பு உறவு யார்யாருக்கிடையில் வளரும்

அ) உறவினர்க்கும் குழந்தைக்கும் இடையில் ☐

ஆ) அண்டையில் உள்ளவர்க்கும் குழந்தைக்கும் இடையில் ☐

இ) தந்தைக்கும் குழந்தைக்கும் இடையில் ☐

7. தாய்ப்பால் கட்டாயமாக எவ்வளவு நாட்களுக்கு கொடுக்க வேண்டும்.

அ) 1 மாதம் ☐

ஆ) 3 மாதம் ☐

இ) 6 மாதம் ☐

ஈ) 1 வருடம் ☐

8. தாய்ப்பால் கொடுப்பதன் மூலம் எந்த நோயிலிருந்து தாயை பாதுகாக்கலாம்

அ) வயிற்று புற்றுநோய் ☐

ஆ) இரத்த புற்றுநோய் ☐

இ) மார்பக மற்றும் அண்டையை புற்றுநோய் ☐

ஈ) எழும்பு புற்றுநோய் ☐

9. நரம்பு தசை நார் செய்தியை எங்கு கடத்துகிறது

அ) ஹைப்போதலாமஸ் ☐

ஆ) மெடுலர் ஆப்லங்கேட்டா ☐

இ) சிறு மூளை ☐

ஈ) பெறுமூளை ☐

10. தாய்ப்பால் ஊட்டும்போது எந்த விதமான அணிச்சை செயல் ஏற்படுகிறது

அ) உறிஞ்சுதல் ☐

ஆ) விழுங்குதல் ☐

இ) உறிஞ்சுதல் மற்றும் விழுங்குதல் ☐

ஈ) குமட்டுதல் ☐

11. 24 மணி நேரத்தில் எவ்வளவு பால் சுரக்கிறது?

அ) 300- 500 மி.லி ☐

ஆ) 200-300 மிலி ☐

இ) 400-600 மி.லி ☐

ஈ) 350-550 மி.லி ☐

12. 2-3 வாரங்களில் எவ்வளவு பால் சுரக்கிறது?

அ) 400-500 மி.லி ☐

ஆ) 500-600 மி.லி ☐

இ) மனிதன் மற்றும் இயந்திரம் ☐

ஈ) இயற்கை மற்றும் இயந்திரம் ☐

13. வெளிவரும் தாய்ப்பால் என்பது

அ) இயற்கை முறை ☐

ஆ) இயந்திர முறை ☐

இ) மனிதன் மற்றும் இயந்திரம் ☐

ஈ) இயற்கை மற்றும் இயந்திரம் ☐

14. வெளிவரும் தாய்பால் என்பது

அ) மார்பில் இருந்து பாலை பிழிந்து எடுத்தல் ☐

ஆ) பாலை குழந்தை உறிஞ்சுவதன் மூலம் ☐

இ) சேகரிக்கும் தாயப்பால் ☐

ஈ) இயற்கையான தாய்ப்பால் ☐

15. தாய்ப்பாலை வெளிக்கொண்ட வருவதன் அவசியம்

அ) குழந்தையின தேவைக்காக ☐

ஆ) தாயின் திருப்திக்காக ☐

இ) தாய் வேலைக்கு போவதற்காக ☐

ஈ) அதிக பால் உற்பத்திக்காக ☐

16. பாலை வெளிக்கொண்டு வருவதற்கு முன்பு தாய் செய்ய வேண்டியது

அ) மார்பை அழுத்தி பாலை எடுக்கும் முறை ☐

ஆ) மார்பை தேய்த்தல் ☐

இ) உடற்பயிற்சி செய்தல் ☐

ஈ) அதிக உணவு உட்கொள்ளுதல் ☐

17. பாலை கையின் மூலம் வெளிக்கொண்டு வருவதற்கான கால நேரம்

அ) 30 நிமிடம் ☐

ஆ) 20 நிமிடம் ☐

இ) 10 நிமிடம் ☐

ஈ) 15 நிமிடம் ☐

18. வெளிக்கொண்டு வந்த தாய்ப்பாலை குழந்தைக்கு எதன் மூலம் கொடுப்பது

அ) பால்புட்டி ☐

ஆ) பாலாடைக் கரண்டி ☐

இ) சிறிய பாத்திரம் ☐

ஈ) கிண்ணம் ☐

19. வெளிக்கொண்டு வந்த தாய்ப்பாலை குளிர் சாதனப்பெட்டியில் எவ்வளவு நேரம் வைப்பது

அ) 4’ மேல் ☐

ஆ) 4’ அல்லது குறைவாக ☐

இ) 4’ – 8’ ☐

ஈ) 8’ மேல் ☐

20. வெளிக்கொண்டு வரும் தாய்ப்பாலின் நயமான முறை என்பது

அ) மின்சர மார்பக இயந்திரம் ☐

ஆ) கையின் மூலம் ☐

இ) கையின் உதவியுடன் செய்யும் மார்பக இயந்திரம் ☐

ஈ) செயற்கை முறை ☐

21. கீழ்கண்டவற்றில் எந்த முறையை பயன்படுத்துவதன் மூலம் நேரத்தை சேமிக்கலாம்?

அ) கையின் மூலம் ☐

ஆ) கையின் மூலம் செய்யும் மார்பக இயந்திரம் ☐

இ) மின்சார மார்பக இயந்திரம் ☐

ஈ) பிற கருவிகள் மூலம் ☐

22. வெளிக்கொண்டு வரும் தாய்ப்பாலை குளிர்சாதனப் பெட்டியில் சேகரிக்கும் சிறந்த முறை என்பது

அ) மூடிய பிளாஸ்டிக் பாத்திரம் ☐

ஆ) மூடிய கண்ணாடி பாத்திரம் ☐

இ) ஸ்டீல் உலோகத்தால் ஆன பாத்திரம் ☐

ஈ) ஏதாவது பாத்திரம் ☐

23. வெளிக்கொண்டு வந்து 8 நாள் மட்டுமே பயன்படுத்தக் கூடிய தாய்ப்பாலை எதன் மூலம் சேகரிப்பது?

அ) குளிர்சாதனப்பெட்டியில் ☐

ஆ) தாய்ப்பாலை கொதிக்க வைப்பதன் மூலம் ☐

24. கிருமிகள் அண்டாமல் தாய்ப்பாலை எப்படி பதப்படுத்துவது

அ) உறைந்த வெப்பநிலை ☐

ஆ) அறையின் வெப்பநிலை ☐

இ) குளிர்சாதனப் பெட்டியில் ☐

ஈ) தாய்ப்பாலை கொதிக்க வைப்பதன் மூலம் ☐

25. பாத்திரத்தில் பால் நிரப்பும் போது 1 இன்ச் விட்டு எதனால் நிரப்ப வேண்டும்

அ) பாத்திரத்தில் கீறல் ஏற்பட்டு விடும் ☐

ஆ) பால் கெட்டு போவதை தவிர்க்கலாம் ☐

இ) போதுமான அளவு காற்றோட்டம் கிடைக்கும் ☐

ஈ) பால் திரிந்து போகும் ☐

26. வெளிக் கொண்டு வரும் தாய்ப்பாலை குளிர்சாதனப்பெட்டியில் எவ்வளவு நேரத்திற்குள் வைக்க வேண்டும்

அ) வெளிக்கொண்டு வந்தவுடன் ☐

ஆ) 15 நிமிடத்திற்குள் ☐

இ) 1 மணி நேரத்திற்குள் வைத்தல் ☐

ஈ) 1 நாளுக்குள் ☐

27. 3 முதல் 4 நாட்கள் பயன்படுத்திய பாலை எதில் வைப்பது

அ) குளிர்சாதனப்பெட்டியின் கதவில் ☐

ஆ) குளிர்சாதனப்பெட்டியின் பின்புறத்தில் ☐

இ) குளிர்சாதனப்பெட்டியின் உறையும் இடம் ☐

ஈ) உறையும் இடத்தில் மட்டும் ☐

28. வெளிக்கொண்டு வரும் தாய்ப்பாலை எதன் மூலம் கொடுப்பது

அ) பால்புட்டி ☐

ஆ) பாலாடை கரண்டி ☐

இ) கிண்ணம் ☐

ஈ) சிறிய பாத்திரம் ☐

29. வெளிக்கொண்டு வரும் தாய்ப்பாலை எதில் வைப்பது

அ) அடுப்பில் ☐

ஆ) உறையும் இடத்தில் ☐

இ) குளிர்சாதனப் பெட்டியில் அறையின் வெப்ப நிலையில் ☐

30. வெளிக்கொண்டு வந்த பாலை தாய்ப்பாலுடன் புதிய தாய்ப்பாலை சேர்க்கும் போது என்ன செய்ய வேண்டும்

அ) குளிர வைக்க வேண்டும் ☐

ஆ) சூடாக்க வேண்டும் ☐

இ) குளிர்சாதனப்பெட்டியில் இருந்து பாலை அகற்ற வெப்பநிலையில் கொண்டு வர வேண்டும் ☐

ஈ) எதையும் சேர்க்க கூடாது ☐

31. சேகரித்த தாய்ப்பாலை குழந்தைக்கு கொடுப்பதற்கு முன்பு அந்த பாலை சுற்றுவதின் அவசியம்

அ) ஒழுங்கான முறையில் கொண்டு வருவதற்கு ☐

ஆ) பாலில் உள்ள கொழுப்பை குறைப்பதற்கு ☐

இ) கால் வெண்மையாக இருப்பதற்கு ☐

ஈ) பால் கெட்டு போகாமல் இருப்பதற்காக ☐

32. ஒரு மறை வெளிவரும் தாய்ப்பாலின் அளவு

அ) 2-4 அவுன்ஸ் ☐

ஆ) 4-6 அவுன்ஸ் ☐

இ) 5-8 அவுன்ஸ் ☐

ஈ) 1-3 அவுன்ஸ் ☐

33. மிதமான வெப்பநிலையில் இருக்கும் பாலை எந்த இடத்தில் வைக்க வேண்டும்

அ) மிதமான தண்ணீரில் கிண்ணத்துடன் வைக்க வேண்டும் ☐

ஆ) செயற்கை அடுப்பு ☐

இ) நீராவி ☐

ஈ) அறை வெப்பநிலை ☐

34. புதிதாக வெளிக் கொண்டு வரும் பாலை அறையில் எவ்வளவு மணி நேரம் வைப்பது

அ) 24 மணி நேரம் ☐

ஆ) 4 மணி நேரம் ☐

இ) 12 மணி நேரம் ☐

ஈ) 2 மணி நேரம் ☐

35. உறைந்த தாய்ப்பாலை அறை வெப்பநிலையில் எவ்வளவு மணிநேரம் வைப்பது

அ) 1 மணி நேரம் ☐

ஆ) 24 மணி நேரம் ☐

இ) 4 மணி நேரம் ☐

ஈ) 12 மணி நேரம் ☐

36. பாலை சேமித்து வைப்பதற்கு முன்பு நன்றாக கலக்கி வைக்க காரணம்

அ) அதிக நாள் சேமித்து வைக்கலாம் ☐

ஆ) நண்ணுயிரிக்கு எதிரான தன்மையை அடையும் ☐

இ) பால் கெட்டுபோவதை தவிர்க்கலாம் ☐

ஈ) பால் புளிப்பதை தவிர்க்கலாம் ☐

37. குளிர் சாதனப் பெட்டியில் இருந்த பாலை அதற்கேற்ற வெப்பநிலையில் எப்படி கொண்டு வருவது

அ) உறைய வைப்பதன் மூலம் ☐

ஆ) சூடாக்குவதன் மூலம் ☐

இ) குளிரவைப்பதன் மூலம் ☐

ஈ) கொதிக்க வைப்பதன் மூலம் ☐

38. உறைந்த தாய்ப்பாலை எப்படி சரியான நிலைக்கு கொண்டு வருவது

அ) கொதிக்க வைப்பதன் மூலம் ☐

ஆ) பாலை சூடான தண்ணீரில் வைப்பதன் மூலம் ☐

இ) பாலை உறையும் இடத்தில் இருந்து குளிர்சாதனப் பெட்டியில் வைப்பதன் மூலம் ☐

ஈ) ஓடும் தண்ணீரில் ☐

39. சூடுபடுத்திய தாய்ப்பாலின் மூலம்

அ) பால் தீய்ந்து விடும் ☐

ஆ) பால் கெட்டு விடும் ☐

இ) பாலை மிதமாக வைக்கும் ☐

ஈ) பாலின் சுவை மாறி விடும் ☐

40. பாலை அதிகமாக சூடுபடுத்த கூடாது ஏனென்றால்

அ) பால் தீய்ந்து விடும ☐

ஆ) பாலில் உள்ள சத்துக்கள் அழிவது மட்டுமல்லாமல் ☐

இ) பாலில் உள்ள கொழுப்புகள் நீங்கி விடும் ☐

ஈ) பாலில் உள்ள ருசி நீங்கிவிடும் ☐

பாகம் - இ

கீழ்காணும் கேள்விகளுக்கு ஆம், இல்லை என பதில் அளிக்கவும்

வரிசை எண்	கேள்விகள்	ஆம்	இல்லை
1.	நிங்கள் உங்கள் குழந்தைக்கு தாய்ப்பால் ஊட்டுவிக்கிறீர்களா?		
2.	நீங்கள் தாய்பாலை மசக்கி வெளிக் கொனர்களிர்களா?		
3.	நீங்கள் சுகாதார முறைகளை பின்பற்றுகிறீர்களா?		
4.	நீங்கள் பால்குப்பிகளை சுத்தமாக வைப்பீர்களா?		
5.	நீங்கள் பாலை சரியான வெப்பநிலையில் வைக்கிறீர்களா?		
6.	நீங்கள் பாலை வெளிக் கொனர்வதற்கு முன் மார்பை மசக்குவிர்களா?		
7.	நீங்கள் பாலை குளிர்பான பெட்டியில் வைப்பிர்களா?		
8.	நீங்கள் பாலை வெளிக்கொனரும் பொது ஏதாவது கடினப் படுகிரிர்களா?		
9.	நீங்கள் குழந்தைக்கு சரியான இடைவெளியில் பாலை ஊட்டுவிக்கிறிர்களா?		
10.	நீங்கள் மீதமான பாலை சரியான முறையில் வெளியேற்றுகிறீர்களா?		

பாகம் - ஆ

பதில்கள்

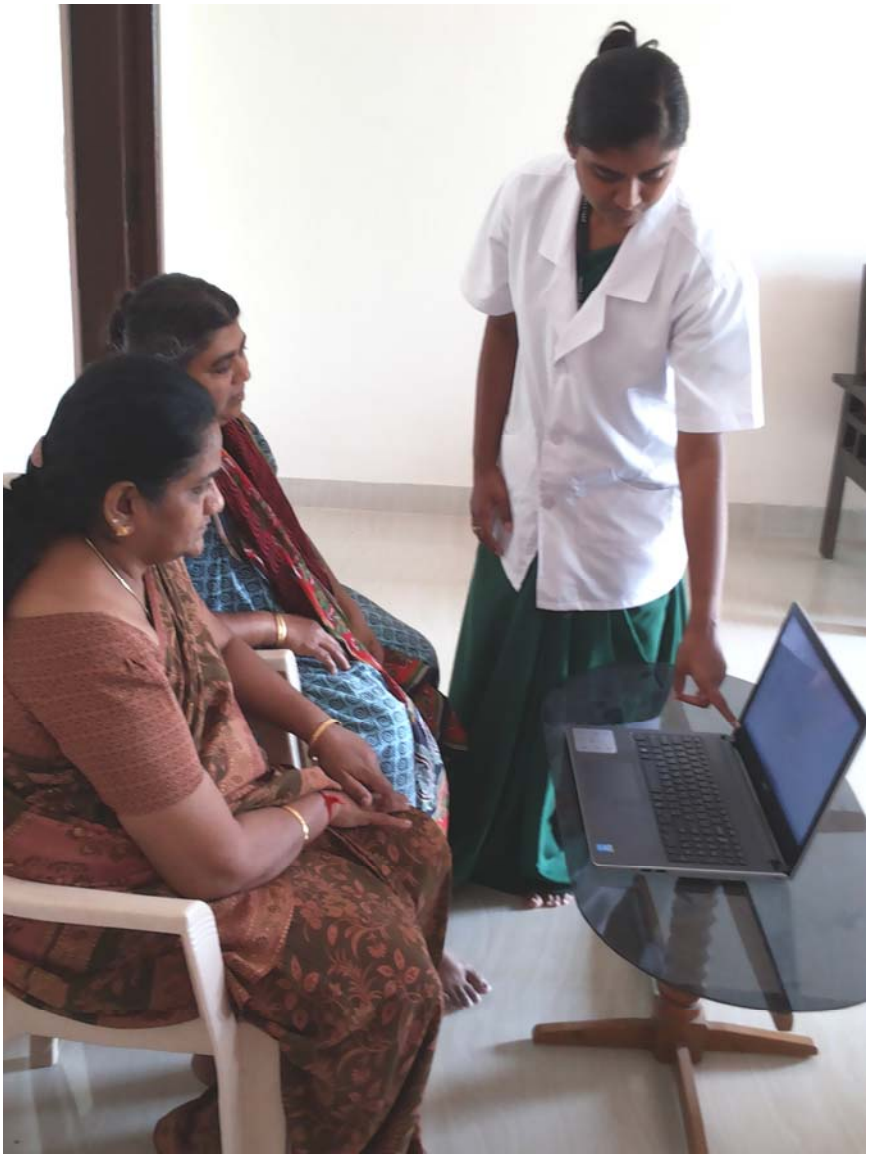
கேள்வி எண்	பதில்	மதிப்பெண்
1.	அ	1
2.	இ	1
3.	ஈ	1
4.	அ	1
5.	அ	1
6.	ஆ	1
7.	ஆ	1
8.	ஈ	1
9.	அ	1
10.	ஆ	1
11.	இ	1
12.	ஈ	1
13.	அ	1
14.	ஈ	1
15.	அ	1
16.	ஆ	1
17.	ஈ	1
18.	ஆ	1
19.	இ	1
20.	அ	1
21.	ஈ	1
22.	இ	1
23.	ஈ	1
24.	அ	1
25.	ஆ	1
26.	ஆ	1
27.	இ	1
28.	ஆ	1
29.	ஈ	1
30.	அ	1
31.	ஈ	1
32.	ஆ	1
33.	இ	1
34.	ஈ	1
35.	அ	1
36.	ஆ	1
37.	ஆ	1
38.	அ	1
39.	ஈ	1
40.	அ	1

பாகம் - இ

பதில்கள்

கேள்வி எண்	பதில்	மதிப்பெண்
1.	ஆம்	1
2.	ஆம்	1
3.	ஆம்	1
4.	ஆம்	1
5.	ஆம்	1
6.	ஆம்	1
7.	ஆம்	1
8.	இல்லை	1
9.	ஆம்	1
10.	ஆம்	1

A STUDY TO EVALUATE THE EFFECTIVENESS OF SELF INSTRUCTIONAL MODULE REGARDING EXPRESSION AND STORAGE OF BREAST MILK AMONG EMPLOYED MOTHERS AT ARAVINDAN NURSING HOME AND PRIMARY HEALTH CENTRE, KOVILPALAYAM, COIMBATORE



HEALTH EDUCATION

ON

EXPRESSION AND STORAGE BREAST MILK

Topic : Expressed Breast Milk

Group : Employed Antenatal Mothers

Place of Teaching : Aravindan Nursing Home

Duration : 45 minutes

Method of Teaching : Lecture and Discussion

Teaching AID : Video

Central Objective

Employed antenatal mothers will acquire knowledge to practice in their life.

Specific Objective

- define breast feeding
- define bonding
- enlist the advantage of breastfeeding
- explain the physiology of lactation
- explain the reason for expressing breast milk
- enlist the ways of expressing breast milk
- explain the collection of breast milk
- describe the storage of breast milk
- enumerate about the appearance of stored milk
- describe about sored or off milk
- explain about thawing of breast milk

Specific Objectives	Content	Teacher's Activity
Define breast feeding	**Expression and Storage of Breast Milk** **Introduction** Breast feeding is the best natural feeding and breast milk is the best milk. Breast feeding is the most effective way to provide a baby with a caring environment and complete food. It meets the nutritional as well as emotional needs of the infant. **Definition** The national association of paediatric nurse practitioner (NAP), the AAP American college and gynaecology, the American dietetic association and the US breast feeding committee of department of health and human service all recommend that, " Breast feeding as the natural and preferred method of new born and infant feeding."	E X P L A I N I N G

	Rooming in Rooming in after birth is when your baby stays in your room with you, as opposed to spending the majority of time in the hospital's nursery. **Rooming in has Many Benefits Including,** ➢ Baby cries less and easier to clam. ➢ Moms get more rest. ➢ Ability to respond to baby's feeding cries. ➢ Make more breast milk. ➢ Ability to ensure the care you want for baby. ➢ No fear of baby switching. Rooming in can be done in variety of ways. A lot of women choose to have full rooming in where the baby stays with you the entire time. Even if you choose this you will still have to care from the nursery, they will simply do the vast majority of the test and procedures at your bedside.	E X P L A I N I N G

Define bonding Enlist the advantages of breast feeding	**Bonding** Bonding is the intense attachment that develops between parents and the baby. It makes the parents to shower the love and affection towards the baby and to protect and nourish their little bonding gets parents up in the middle of night to feed their hungry baby and make them attentive to baby's wide range of cries **Advantages of Breast Milk** **For baby** ➢ Breast milk is natural, always fresh, convenient, inexpensive, easily digestible and optimum for baby's growth and development. ➢ Breast milk is a complete food and it provides all the nutrients that baby needs during first six months of life. ➢ Breast milk contains a number of anti-infective substance and antibodies which protects the baby against the development of diarrhea, respiratory illness and other infections (specially ear infection).	EXPLAINING

	➢ Breast fed babies have been shown to develop better protective response to various vaccines compared to bottles fed babies. ➢ Breast fed babies are smarter and have been shown to have higher quotient (IQ). High concentration of two keys long chain fatty acid and lactose promote brain growth and development. ➢ Sterile and readymade breast milk is sterile and ready for use. There is no risk of external contamination as the milk passes directly from mother to baby. ➢ Breast fed babies are less likely to suffer from diabetes, high blood pressure, heart attack and certain cancer in adulthood. ➢ Less smelly nappies of babies. ➢ Better mouth formation and straighter teeth. ➢ Breast feeding provides emotional security and close bonding between mother and baby. ➢ Breast feeding has been shown to associated with higher cognitive ability in adolescence.	E X P L A I N I N G

	For mother **Psychological Satisfaction** ➢ Nursing the baby gives the mother psychological satisfaction and sense of fulfilment. **Rapid Involution of Uterus** ➢ Breast feeding ensures earlier termination of post-partum bleeding and better involution of post-partum uterus. **Spacing of Pregnancy** ➢ Breast feeding delays ovulation and onset of menstruation which provides nature mean to ensure spacing of children. ➢ Breast feeding is convenient and less time consuming. ➢ Mothers who breast fed their babies enjoy a very low incidence of cancers of breast and ovary.	E X P L A I N I N G

	Faster Return to Pre-pregnancy Figure ➢ Breast feeding helps to maintain and regain the pre-pregnancy body weight earlier because energy stores let down during pregnancy are consumed faster during lactation. ➢ It has been shown in various studies bones are stronger in later life in mothers who has breast fed their babies. **Mnemonics of breast feeding** ➢ **B –** BREAST FOR BABY ➢ **R –** REDUCE INCIDENCE OF ALLERGY ➢ **E –**ECONOMICAL ➢ **A -**ANTIBODIES ➢ **S-** STOOL OFFENSIVE ➢ **T-**TEMPERATURE ➢ **F-** FRESH MILK ➢ **E –** EMOTIONAL BONDING	E X P L A I N I N G

	➢ **E-** ECOLOGICALLY SOUND ➢ **D-** DIGESTED EASILY WITHIN 2 HOURS ➢ **I-** IMMEDIATELY ➢ **N-** NUTRITIONALLY OPTIMAL ➢ **G-** GASTRO ENTERITIS AVOIDED	E X P L
Explain the physiology of lactation	**Physiological Bases of Lactation** Sucking is the beast stimulus to enhance milk production. As per baby sucks vigorously, several hormones are realized to produce milk and eject it out. Sucking movements stimulates nerve fibres in the nipple. These nerve fibres transmit messages to the hypothalamus in the brain. The pituitary gland responds to these messages by release of two hormones prolactin and oxytocin. Oxytocin stimulates tiny muscles surrounding the breast. The contraction of these tiny muscles squeezes the ducts and ejects the milk into reservoir under the areola. When the baby sucks frequently and vigorously the production is enhanced.	A I N I N G

Explain the reason for expressing breast milk	**Sucking Reflex** Elicit the sucking reflex by placing the nipple or non-latex gloved finger in the infant's mouth. The infant should elicit a strong vigorous suck. It persist throughout the infancy. **Let Down Reflex** The release of oxytocin during sucking also causes involution or contraction of the uterus so that it rapidly shrinks in size to pre pregnancy status. The release of prolactin inhibits ovulations that there is the state of relative infertility during breast feeding. **Expressed Breast Milk** **Mothers Express the Breast Milk for Variety of Reasons** ➢ The baby needs extra breast milk as "top up food" following a breast fed. ➢ The baby may not be able to suck well at the breast. ➢ The mother is going to work. ➢ The mother may prefer to feed using bottle.	EXPLAINING

Enlist the ways of expressing breast milk	➢ The mother is going out or simply wants a break from responsibility of feeding the baby. ➢ Some women regularly express to maintain or increases their milk production. **Three Ways to Express the Breast Milk** In the first week of delivery it is expressed to produce about 300 to 500ml of milk in 24 hrs period. This should increase to about 600 to 700ml over the following 2 to 3 weeks. Breast milk can be expressed by, **By hand** Expressing milk by hand is a cheap and convenient method it may take little practice to learn this skill but it is worth and comfort. Before preparing to hand express, ➢ Wash your hands thoroughly with soap and water. ➢ Try to relax	EXPLAINING

	➢ Massage your breast by the flat of your hand working towards each nipple. Place the finger and your thumb either side of the nipple at the base and gentle stretch and roll the nipple. ➢ Place your thumb above your nipple at the edges of the areola (dark around the nipple) and the first finger below. ➢ Using your thumb, gently press your breast tissue back towards your chest wall and squeeze. ➢ Drop of milk soon bred on your nipple. Gently rub the first drop into your nipple. ➢ This will further stimulate your let down reflex and increases the milk flow. ➢ Continuously press and squeeze in rhythmic massaging movement. The milk will soon begin to flow sometimes even squirting hand regularly. ➢ Once the milk dwindles to a few drops, move your finger on to another of your breast and continue to press and squeeze. **Expressing by Hands Takes Time** Repeat the above technique in each breast for a total of 30 minutes. If you express three times each for 5 times, it will not take more than half an hour.	E X P L A I N I N G

	Hand Held Breast Pump It is a quicker method and produces more milk each time. Mothers mat prefer this method because they don't have to handle their own breast to express milk. It is important not to use any kind of pump until your breast milk has 'come in' and your supply is established. Also avoid using a pump is you have nipple damage or edematous areola. A hand pump must be, ➢ Effective ➢ Comfortable ➢ Easy to use ➢ Safe to use that is, it should not damage the nipple or areola or cause muscle strain ➢ Economical **Suggestion for Using Hand Held Pumps are as Follows** ➢ Stimulate the let down reflex by hand once the milk has started to flow switch to the pump. ➢ Place the fling of the pump directly over your nipple and hold it firmly against your breast.	E X P L A I N I N G

	➢ Adjust the strength so that it is comfortable and not causing any pain or discomfort. ➢ Finish expressing by hand for few moments to remove the drop of rich milk. **Electric Breast Pump** Many mothers choose electric breast pump. This is the real time saver when expressing full time. **Suggestions Include,** ➢ Choose the model with adjustable suction that is too high can be painful and can cause nipple damage and will not remove any extra milk from the breast. ➢ Stimulate the let down reflex by hand and once the milk flow has started switch to the pump start with the low pressure and slowly increase the pressure to your level comfort. If it is painful check that the pump is centered directly over your nipple and reduces the suction. ➢ Finish by expressing by hand to remove the last rich drops of milk. ➢ These can be very convenient, has they are small and light. However they are not designed for heavy use if it is going to express frequently over a prolonged period of time, it will need a	E X P L A I N I N G

Explain the collection of breast milk	steadier electric motor breast pump. **Collection of Breast Milk** ➢ Wash hands with soap and water ➢ Wash breast pump parts that come in contact with the breast or milk, as well as the collection containers, in either anavent steam sterilizer in a dish water or by hand using hot soapy water. ➢ Rinse with cold water and air dry on a clean towel. Check with your health care for any other instructions. ➢ When to pump depends on your baby schedule your milk supply is usually plentiful in the morning so that it is good time to pump. ➢ Try to schedule pumping mid-way between when a baby feeds. ➢ Be flexible if your baby skips a feeding, nurses for a shorter time than usual or nurses on one side, pump the remaining milk and safe it, if you are planning to return and continue breast feeding being pumping one or two weeks before you start to work. ➢ Try to duplicate what your pumping schedule will be once you are back to work. Before pumping	E X P L A I N I N G

	get comfortably seated and relaxed. Pump your breast according the breast pump manufactures instructions. ➢ There are several containers available for storing the breast milk, including specially designed plastic bags and glass containers. ➢ There are advantages to each use the type which is most functional for you. The amend mother's milk freezing bag is especially designed with multi-play constructions to provide maximum protection for storing breast milk. ➢ Pump express breast milk into clean collection container. ➢ It is not normal human milk to vary in colour, consistency and odour, depending on mother's diet and type of storage container used. **Choice of Storage Container** When a baby is only receiving milk occasionally type of container is not a major consideration however, if a baby is receiving most of his nourishment from the expressed breast milk the type of storage container used should be considered carefully. Plastic containers are best. Choice for storing	E X P L A I N I N G

	breast milk in the refrigerator as more of human milks leukocytes or white cells adhere to glass. If the milk frozen glasses are preferred choice as it is less porous and offers the best production. Most of the leukocytes in human milk are killed with freezing. For this reason milk that can be used within eight days of expressing should be refrigerated rather than frozen because antimicrobial properties of human milk are better preserved with refrigerated. Another good choice for refrigerated is the milk storage bags that are designed especially for human milk. They are pre sterilized and are thicker, coated with polythene lined with nylon which prevents the fat from adhering to the sides. Hard plastic container of any kind is also good choices for both refrigeration and freezing. Other milk bags sold specifically at bottle liners or not as durable making them anon acceptable alternative when freezing the milk as the seams may burst during the freezing process perhaps causing a leak during thawing. Also one study found that there was a sixty percentage decrease in the milks antibodies and loss of fat that adhere to the sides of these bags. If this type of bag is still chosen, the milk can be better protected by placing the liner bags in a larger gallon size freezer bag or in a hard plastic container.	E X P L A I N I N G

Describe the storage of breast milk	When milk freezes it expands so it is necessary to leave about an inch at the top of the container tallow for expression. For this reason bottle caps or container lid should not be tightened until the milk is completely frozen. **Storage of Breast Milk** Breast milk must be stored correctly to reduce the potential for bacterial growth. **Suggestions include,** ➢ Use fresh breast milk whenever possible. ➢ Express into clean and sterile container. There may be a glass, plastic or reliable plastic bags. ➢ Label each container with the time and date the breast milk was expressed. ➢ Refrigerate the breast milk within one hour of expressing stored breast milk in the back of the fridge where it is coolest(4ºc or lower), not in the fridge door if you are going to use it within the next 3 to 5 days. ➢ Freeze excess breast milk if you produce more milk than your baby requires. ➢ Freeze refrigerator breast milk immediately if you are going to use it in the next few days.	E X P L A I N I N G

- Do not top up refrigerated or frozen breastmilk with fresh breast milk unless it has been chilled first.
- If the freezer is inside the fridge storage time is 2 weeks if it is separated from the fridge with its own door, storage time is upto 3 months.
- Breast milk can be stored for 6 to 12 months in a deep freezer (-18ºc or lower).

	Freshly Expressed Breast Milk	**Thawed Breast Milk**
➢ Room temperature up to 77ºf/26º	6 to 8 hours	Do not store
➢ Refrigerated (39ºf/4ºc)	Up to 5 days	24 hours
➢ Insulated cooler bags with ice	24 hours	Do not store
➢ Freezer inside of refrigerated (5ºf/15ºc)	2 weeks	Never refreeze the thawed milk
➢ Freezer with separate doors	3 to 6 months	Never refreeze the thawed

EXPLAINING

➢ Deep freezer (rarely opened)	6 to 12 months	milk Never refreeze the thawed milk	

One way to keep milk from spoiling so quick is to halt the breakdown of fats by scalding the milk just prior to soring. It scalding the milk involves allowing small bubbles to appear on its surface but removing it from the heat before and actual boil occurs. The milk should then be stored immediately either in the refrigerator or freezer. Sometimes odours from the refrigerator or freezer can enter stored breast milk. To avoid this be careful about storage container adding a box of baking soda to the unit, throughout old let over's and make sure any newer food is covered or wrapped tightly and check that the temperature of refrigerator or freezer is set low enough.

E X P L A I N I N G

Enumerate about the appearance of stored

Appearance of Stored Milk

The appearance of stored milk can take on many forms. After a while the fat in the milk begin to

milk Describe about sored or off milk	separate from the body of it they may raise to the top or settle on the sides of the storage container. Before emptying the milk into the baby's bottle or cup and right before serving it to the baby be sure to gentle swirl the milk so that the fat can be redeposit back in to the rest of the milk. Milk that has been expressed can look thin less white in appearance than that of cow's milk because it has not been homogenized **Soured or Off Milk** Milk is not spoiled unless it has a sour odour or tastes bad this is thought to a result of milk having an excess of lipase an enzyme which helps the breakdown of fats in human milk. **Hygiene is Important** Hygiene suggestions include, ➢ Wash your hands thoroughly before expressing. ➢ Make sure all equipment's including the breast pump and the bottles are clean. ➢ If you are using your own expressing equipment and are not sharing it to anyone else there is no	E X P L A I N I N G

	need to sterilize the equipment after each use. Washing thoroughly in hot soapy water rinsing in hot water and storing in clean covered container are adequate.	
Explain about thawing of breast milks	**Thawing of Breast Milk** ➢ The breast milk must be thawed correctly to reduce the potential for bacteria growth. ➢ Thaw frozen breast milk by moving from the freezer to the fridge for slow thawing for 24 hours. ➢ Run cold water over the container and gradually increase the temperature of the water. ➢ Do not over heat the milk as it will destroy some of the nutrients and may burn the baby's mouth. ➢ Never use the microwave as it cause 'hot spot' in the milk that may burn the baby's mouth. ➢ Frozen breast milk that is thawed in fridge will last 24 hours in the fridge and 4 hours in the room temperature. It cannot be frozen. ➢ If milk has been thawed outside the fridge using warm water it will last for 4 hours in the fridge but it cannot be refrozen.	E X P L A I N I N G

	Summary Breast feeding is having many advantages for infant, mother, family and society which includes reduce morbidity and mortality of the child. **Conclusion** Breast feeding after returning to work is a way to tie the two halves of your child. The best possible beginning and in return you will gain in yourself as a mother.	

தாய்ப்பால் வெளியேற்றுதலை பற்றிய கல்வித் தொகுப்பு

தலைப்பு	:	தாய்ப்பால் வெளியேற்றுதல்
குழு	:	கர்ப்பிணி தாய்மார்கள்
கால அளவு	:	மணி நேரம்
இடம்	:	மருத்துவமனை
கல்வி உபகரணங்கள்	:	கணிப்பொறி

பொதுவான நோக்கங்கள்

நாங்கள் எடுக்கும் கல்வித் தொகுப்பின் மூலம் கர்ப்பிணி தாய்மார்களுக்கு தாய்ப்பால் வெளிப்படுத்தும் முறையை பற்றி தெரிந்து கொள்வதற்காக இந்த கல்வித் தொகுப்பு அளிக்கப்படுகிறது.

சிறப்பு நோக்கங்கள்:

- தாய்மார்கள் தெரிந்து கொள்வது என்னவென்றால்
- தாய்ப்பால் ஊட்டதல் என்றால் பிணைப்பு என்பது என்ன?
- தாய்ப்பால் ஊட்டுதலின் நன்மைகள் யாவை?
- மார்பக அளவில் ஏற்படும் அணிச்சை செயல்கள் யாவை?
- தாய்மார்கள் தாய்ப்பாலை வெளிப்படுத்துவதற்கான காரணங்கள் யாவை?
- தாய்ப்பாலை வெளிப்படுத்துவதற்கான வழிகள் ?
- தாய்ப்பாலை வெளிப்படுத்துவதற்கான முறைகள் யாவை ?

சிறப்பு நோக்கங்கள்	பொருளடக்கம்	ஆசிரியர் கருத்து
தாய்ப்பால் ஊட்டுதல் என்றால் என்ன?	**முன்னரை** ஒரு சத்ததான உணவாக மட்ட்ம அல்லாமல் மனரீதியாகவும் மற்றும் குழந்தையின் தேவைகளையும் பூர்த்தி செய்கிறது **வரையறு** தேசிய குழந்தை செவிலியர் அமைப்பு அமெரிக்க மருத்துவ கல்லூரி மற்றும் மகப்பேறு மருத்துவம் அமெரிக்க திட்ட உணவு அமைப்பு மற்றும் யு.எஸ் தாய்ப்பால் அளித்தல் குழுவும் உடல் நலமும் மனித நேய சேவையும் **கூறியதாவது** “தாய்ப்பால் ஊட்டுதல் என்பது குழைந்தைக்கு இஇயற்கையாக கிடைக்கும் உணவாகவும் உள்ளது”	க ற் பி த் த ல்

	தாயும் சேயும் ஒரே அறையில் ➢ குழந்தை பிறந்த பின்பு குழந்தையும் தாயும் ஒரே அறையில் ➢ அதிகமான நேரம் செலவிடுவதால் எற்படும் பயன்கள்: ➢ குழந்தை அழுவதை தவிர்க்கலாம் தாய் அதிக நேரம் ஓய்வெடுக்கலாம் ➢ குழந்தையின் பசியை கண்டறியலாம் ➢ தாய்ப்பால் அதிகமாக சுரக்கும் அதனால் ➢ தாய் குழந்தையை பாதுகாப்பான முறையில் வளர்க்க உதவுகிறது	
பிணைப்பு என்பது என்ன?	**பிணைப்பு** பிணைப்பு என்பது குழந்தை மற்றும் பெற்றோர்களுக்கும் இடையில் ஏற்படும் உறவு முறையே பிணைப்பு எனப்படும் பெற்றோர்கள் தங்கள் குழந்தைகளை பாசத்தோடும் பாதுகாக்கவும் வைத்துக் கொள்வார்கள் அப்பொழுது குழந்தையின் பலவிதமான அழுகையின் தேவையும் தெரிந்து கொள்வார்கள்	கற்பித்தல்

தாய்ப்பால் ஊட்டலின் நன்மைகள் யாவை?	**தாய்ப்பால் ஊட்டலின் நன்மைகள்** **குழந்தைக்கு** தாய்ப்பால் என்பது இயற்கையாகவும் புதுமையாகவும் எளிதாகவும் செரிமானத்திற்காகவும் மற்றும் குழந்தையின் வளர்ச்சிக்காகவும் கொடுக்கப்படுகிறது. ➢ குழந்தைக்கு முதல் ஆறு மாதம் தாய்ப்பால் மட்டும் கொடுக்கப்பட வேண்டும். ➢ தாய்ப்பால் உட்கொள்ளும் குழந்தைகள் அறிவுத் திறனில் மிகவும் சிறந்து விளங்குவர் ➢ தாய்ப்பால் சுத்தமாகவும் எப்பொழுதும் கொடுக்க கூடியதாக இருக்கும் ➢ தாய்ப்பால் உட்கொள்ளும் குழந்தைகளுக்கு சர்க்கரை நோய் வரும் வாய்ப்பு குறைவு ➢ குழந்தையின் அணை ஆடையின் துர்நாற்றம் குறையும் ➢ வாய் மற்றும் பற்கள் சீரமைப்பு சரியாக இருக்கும **தாய்க்கு** ➢ தாய்ப்பால் அளிக்கும் தாய்மார்களுக்கு மனநிறைவு ஏற்படும். ➢ தாய்ப்பால் அளிக்கும் தாய்மார்களுக்கு க்கர்ப்பபை அதனுடைய நிலைக்கு திரும்பும ➢ தாய்ப்பால் கொடுக்கும் தாய்மார்களுக்கு மார்பக மற்றும் கர்ப்பப்பை சார்ந்த உறுப்புகனில்	கற்பித்தல்

	ஏற்படும் புற்று நோய்க்கான வாய்ப்பு குறையும் ➢ பழைய தாய்ப்பால் கொடுக்கும் தாய்மார்கள் தங்கள் பழைய உடல் சீரமைப்பையும் மற்றும் பழைய உடல் இடையும் பெறுவார்க்ள. ➢ தாய்ப்பால் கொடுக்கும் தாய்மார்கள் தங்கள முதுமை காலங்களில் ஏற்படும் எலும்பு சம்பந்தமான நோய்க்கான வாய்ப்பு குறைவு	
தாய்மார்கள் தாயப்பால் வெளிப்படுத்துவத்றகான சில காரணங்கள் என்ன?	**உறிஞ்சும் அணிச்சை செயல்** ➢ உறிஞ்சும் அணிச்சை செயல் என்பது காம்பு அல்லது கை விரல் குழந்தையின் வாயில் வைப்பதால் ஏற்படுவது அப்பொழுது ➢ குழந்தை திடமாக உறிஞ்சும் ➢ இது குழந்தை பருவம் முழுவதும் நீடிக்கும **கீழ் உத்தரவு கொடுக்கும் அணிச்சை செயல்** ➢ குழந்தை உறிஞ்சும் பொழுது ஆக்ஸிடோஸின் என்னும் ஹார்மோன் வெளிவருகிறது. இதனால் கர்ப்பப்பை சுருங்குவது மட்டும் அல்லாமல் அதனுடைய பழைய நிலைமைக்கு	கற்பித்தல்

	➢ வருகுறது ப்ரொலாக்டின் என்னும் ஹார்மோன் விடுவிப்பதால் கருமுட்டைகளின் உற்பத்தி தடக்கப்படகிறஙது. எனவே இதுவ்ம ஒரு குடும்பக் கட்ப்பாடு முறையாக இருக்கிறது. **பாலூட்டதலால் உடல் ரீதியான மாற்றங்கள்** ➢ பால் சுரப்பதற்கு உறிஞ்சுதல் ஒரு மிக சிறந்த தூண்டுகேர்ள குழ்நதை தாய்ப்பாலை திடமக உறிஞ்சும் பொழுது பல ஹார்மோன்கள் உதவியால்பால் சுரக்கிறது. ➢ குழந்தை உறிஞ்சுவதினால் காம்புகளில் உள்ள நரம்புகள் தூண்டப்படகிறது. பிட்யூட்ரி சுரப்பியின் உதவியால் ப்ரோலக்டின் ➢ ஆக்ஸிடோஸின் தூண்டுவதால் பால் சுரக்கிறது. ➢ இதனால் அந்த ிசறு தசைகளில் ஏற்படம் அழுத்தத்தினால் பால் சுரக்கிறது. இதனால் குழந்தையின் தேவைக்கேற்ப திடமாக உறிஞ்சுவதால் பால் உற்பத்தியும் கூடுகிறது.	க ற் பி த் த ல்
மார்பக அளவில் அணிச்சை செயல்?	**வெளிப்படுத்துகின்ற தாய்ப்பால் தாய்மார்கள் பாலை வெளிப்படுத்துவதற்கான சில பாரணங்கள்** ➢ குழந்தைக்கு தாய்ப்பாலை பாலை வெளியேற்றுகிறார்கள். ➢ தூய்ப்பால் உறிஞ்ச முடியாத குழந்தைகள்	

	➢ வேலைக்கு செல்லும் தாய்மார்கள் ➢ பால் சுரப்பதை அதிகமாக்குவதற்காகவும் வெளியேற்றுகிறார்கள். **தாய்ப்பாலை வெளிப்படுத்துவதற்கான மூன்று வழிகள்** பிரசவமான முதல் வாரத்தில் ஒரு நாளைக்கு 300-500 மி.லி வரை பால் உற்ப்பதிதி ஆகிறது இது போல் 600-700 மி.லி வரை 2 முதல் 3 வாரங்களில் உயர வேண்டும்	
தாய்மர்கள் தாய்ப்பால் வெளிப்படுத்துவதற்கான சில காரணங்கள் என்ன?	**தாய்ப்பாலை வெனளி எடுக்கும் முறைகள்** **கைகளின் மூலம்** **பாலை கையின் மூலம் எடுப்பதற்கு முன் கைகளை சுத்தமாக்கும் முறைகள்** ➢ சோப் மற்றும் தண்ணீரால் கைகளை சுத்தமாக கழுவ வேண்டும். ➢ எந்த ஒரு பதற்றமும் இல்லாமல் அமைதியாக இருக்கவும் ➢ கையை வைத்து மார்பை மசாஜ் செய்ய வேண்டும் ➢ விரலாலும் கட்டை விரலாலும் ாகம்பு பகுதியை பொறுமையாக தேய்க்கவும் ➢ மார்பு காம்பை தொடர்ந்து பிழிவதமால் பால் அதிகமாக சுரக்கும்	கற்பித்தல்

	➢ பால் வெளி வந்ததும் கைகளை எடுக்காமல் தொடந்ர்ந்து அமித்தி பிழியவும் ➢ கைகளின மூலம் பிழிவது அதிக நேரம் எடுக்கும். ➢ இந்த செயலை இரண்டு மார்பிலும் மாற்றி மாற்றி 30 நிமிடங்கள் செய்து கொண்டே இருக்க வேண்டும்	
தாய்ப்பாலை வெளிப்படத்துவதற்கான வழிக்ள யாவை?	**கையை கொண்டு அழுத்தும் குழாய்** ➢ இது மிகவும் வேகமாக முறை மற்றும் கமாக பாலை எடுக்கவும் மாய் மார்கள் இந்த முறையை உபயோகப்படுத்துவார்கள் ➢ காம்பில் புண் மற்றும் வீதம் காணப்பட்டாதல் இந்த முறையை பயன்படுத்தக் கூடாது **கைகுழாய் எப்படி இருக்க வேண்டும்** ➢ செயலாற்றல் மிகுந்தது ➢ வசதமியானது ➢ எளிதாக உபயோகிக்கலாம் ➢ பாதுகாப்பானது	க ற் பி த் த ல்

தாய்ப்பாலை வெளி எடுப்பதற்கான முறைகனள்:	➢ சிக்கனமானது **கைகுழயாய் உபயோகிப்பதன் கருத்துக்கள்** கீழே வரும் அணிச்சை செயலட் தொடங்கியதும் கைகுழாயை உபயோகிக்க வேண்டுமம் கைகுழாயை மார்புக்மில் சரியாக வைத்து அமுக்க ஆரமிபிக்க வேண்டும் அப்பொழுது இடையில் வலி வராமல் அமுக்க வேண்டும் **மின்சார மார்பு குழாய்** இது கை எளிதான முறை இதன் மூலம் தாய்மார்கள் அதிகமான **நேரத்தை சேமிக்கிறார்கள்** **விதி முறைகள்** ➢ காம்பு குது இந்த வழியாக இருக்க வேண்டும் இதனால் வலி ஏற்படாமல் தடுக்கலாம் ➢ முதலில் குறைந்த அழுத்தம் கொடுத்து பின்னர் படி படியாக அழுத்தத்தை உயர்த்த வேண்டும்	க ற் பி த் த ல்

	➢ அழுத்தம் கொடுக்கும் வலி ஏற்பட்டால் காம்பு பகுதியை பரிசோதித்து சிகிச்சை மேற்டிகொள்ள வுண்டும் கடைசி சொட்டுபால் வரும் வரை குழாயை உபயோகப்படுத்த வேண்டும் **தாய்ப்பால சேகரித்தல்** ➢ கைகள் மற்றும் கைக்குழாயின் உறுப்புகளை சோப்பு மற்றும் சுடு மண்ணீரால் சுத்தமாக கழுவ வேண்டும் பின்னர் சுத்தமாக துண்டால் துடைக்க வுண்டும் ➢ தாயை அமைதியளாக உட்கார வைத்து வைகக்குழாய் உபயோகப்படுத்தி பாலை எடுக்க வேண்டும் பின்பு கைக்குழிாய் உபயோகப்படுத்தி பாலை எடுக்க வுண்டும் பின்பு அந்த பாலை பிளாஸ்டிக் அல்லது கண்ணாடி பாத்தழிரத்தில் சேகரித்து வைத்து குளிர்சாதனப் பெட்டியில் வைக் வுண்டும். ➢ ஏனெனில் கெட்டு போகாமல் இருப்பதற்காகவும் மற்றும் பாலில் குபழி ஏற்படாமல் இருப்பதற்காகவும் வைக்க வேண்டும் ➢ கிளர்சாதனப் பெட்டியில் பாலை வைக்கும் பொழுது எந்த விதமான வாடையும் வராமல் பாதுகாக்க குனளிர்சாதன்ப்பபெட்டியில் பாலை வைக்கும் பொழுது எந்த விதமான	க ற் பி த் த ல்

	வாடையும் வராமல் பாதுாகக்க குளிர்சாதனப் பெட்டியில் வைத்திருக்கும் பொருட்களையும் மூடி வைதட்ஷது ஷகு குளிர்சாதன பெட்டியில் வைத்திருக்கும் பொருட்களையும் மூடி வைத்து குளிர்சாதன பெட்டியின நிலையை அதிகமாக்க வுண்டும். **சேகரிப்பதற்காக பாத்தரிரம்** எப் பொழுதாவது பால்குடிக்கும் குழந்தைகளுக்கு ாபல் சுகேரிக்குழ் பாத்திரம் தேவையில்லை எனினும் பிளாஸ்டிக் பாத்திரத்தை உபயோகிக்லாம்இ ஏனெனலில் பஜியாஜ்டிக் குளிர்சாதன பெட்டியிலர் வைக்கும் பொழுது வெள்ளை அணுக்கள் பாத்திரத்தில் சேகதரிப்பதனால் பாலில் உள்ள டிவள்ளை அணக்கள் அழிகிறது. புாலின் நோய் எதிர்ப்பு சக்தி குறைவதில்லை **சுத்தத்தின் தேவைகள்** பாலை வெளிக் கொஒண்டு வருவதற்கு முன்பு கைகளையம் பால் வைப்பதற்கு தேசைவயான சாதனங்களும் புட்டிகளுமட் கழுவி வைக்க வேண்டும்.	க ற் பி த் த ல்

	தாய்ப்பாலை உருக்குவது ➢ உறைந்த தாய்ப்பாலை உருக்குவது சரியான முறைில் இருக்க வேண்டும் இல்டலையென்றால் அதில் நுண:ணியிதாகள் வளரும் ➢ குளிர்ந்த தண்ணீரை அந்த உறைந்த பாலில ஊற்றி 24 மணி நேரத்திற்குள் உருக வைக்கலாதம் ➢ பாலை அதிகமாக சூடாக்க கூடாது. ஏனெனில் குழந்தையஜின் வாயை புண்ணாக்க வாளய்ப்புள்ளளது. **புதப்படுத்தியி ாபிலன் தோற்றம்** புதப்படுத்திய பால் தனியாகவும் கொழுப்பு நிறைந்ததாகவும் பிரிந்த நிழைலயிலும் மற்றும் கொழுப்பு பாலின மேலும் அல்லது ஓரமாக காணப்பமுடும் இஅதனால் பாலை குழந்ரைதக்கு கொடுக்கும் பொஷழுது நன்றாக கலபக்கி அகொடுக்க ’ண்டும். **புளித்த பால்** பால் ொகடுப்பதற்காகன காரணங்கள் பாலில் கொழுப்பு தன்’மை கூடுதலாக இருப்பதும்	கற்பித்தல்

	அல்லது பாலை சரியதாாக சேகரிக்காமல் இருப்பதும் அல்லது பாலை சரிாயாக சேகரிக்காமல் இருப்பதும் அல்லாது புளித்த வாடை இருநட்தாழும் பால் பெட்டு விட்டது என்று அர்த்தம் **முடிவுரை** வெளிப்படுத்தும் தாய்ப்பால் எளிதான மற்றும் உபயோகமான முறையாக இருக்கும். குழந்தைக்கு எந்த விதமான பாதிப்பும் ஏற்படாது. இந்த முறை வேலைக்கு செல்லும் தாய்மார்களுக்கு மிகவும் உதவியாக இருக்கும். குழந்தையும் ஆராக்கிய நிலையில் இருக்கும். வெளிப்படுத்தும் தாய்ப்பால் எளிதான முறை இதை வேலை செய்யும் தாய்மார்களுக்கு சொல்லி கொடுப்பதன் மூலம் குழந்தையின் எதிர்ப்பு சக்தி குறைவதில்லை. அதனால் தாய்மார்கள் மனரீதியான அளவிலும் முன்னேறுகிறார்கள். இதனால் இந்த முறை குழந்தைக்கும் தாய்மார்களுக்கும் உதவியாக இருக்கும்.	க ற் பி த் த ல்